

SARAWAK

1962

The Cobbold Commission which visited Sarawak early in the year to ascertain the views of the people regarding the proposals for the establishment of Malaysia. From left to right: Inche Muhammad Ghazali bin Shafie, Dato Wong Pow Nee, Lord Cobbold, Sir David Watherston and Sir Anthony Abell.

(S.I.S.)



SARAWAK

Report for the year
1962

LONDON

HER MAJESTY'S STATIONERY OFFICE

1963

© *Crown copyright 1963*

Published for the Colonial Office by
HER MAJESTY'S STATIONERY OFFICE

To be purchased from
York House, Kingsway, London W.C.2
423 Oxford Street, London, W.1.
13A Castle Street, Edinburgh 2
109 St. Mary Street, Cardiff
39 King Street, Manchester 2
50 Fairfax Street, Bristol 1
35 Smallbrook, Ringway, Birmingham 5
80 Chichester Street, Belfast 1
or through any bookseller

*Printed in Sarawak
by the Government Printer*

Price 15s. 0d. net

This Report
is included in the series of Colonial Reports
published for the Colonial Office

CONTENTS

PART I

GENERAL REVIEW OF THE YEAR	I
----------------------------	---

PART II

I	POPULATION	II
II	OCCUPATION, WAGES AND LABOUR ORGANISATION	13
III	PUBLIC FINANCE AND TAXATION	19
IV	CURRENCY AND FINANCIAL INSTITUTIONS	32
V	COMMERCE	36
VI	LAND UTILISATION AND TENURE	49
VII	PRODUCTION	
	AGRICULTURE	72
	FORESTRY	III
	MINERAL RESOURCES	117
VIII	INDUSTRIAL DEVELOPMENT IN SARAWAK	127
IX	CO-OPERATIVE DEVELOPMENT	140
X	SOCIAL SERVICES	
	EDUCATION	147
	PUBLIC HEALTH	157
	SOCIAL WELFARE	174
	COMMUNITY DEVELOPMENT	178
	YOUTH ACTIVITIES	183
XI	LEGISLATION	187
XII	LAW AND ORDER	
	JUSTICE	191
	CONSTABULARY	202
	PRISONS	213
	SARAWAK BOYS' HOME	215

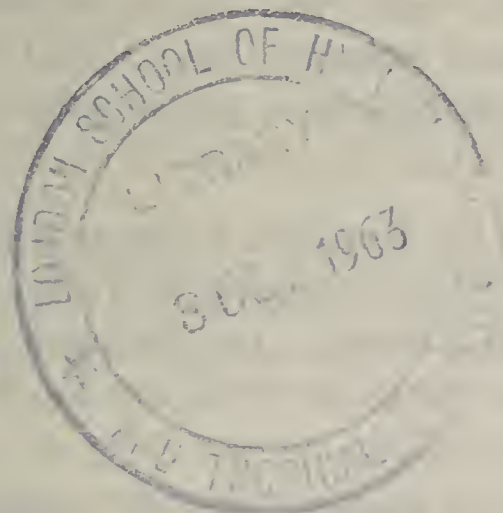
CONTENTS—*continued*

XIII	PUBLIC UTILITIES AND PUBLIC WORKS	218
XIV	COMMUNICATIONS	
	AIR	244
	WATER	247
	ROADS	251
	LAND TRANSPORT	254
	TELECOMMUNICATIONS	259
XV	INFORMATION, PRESS AND BROADCASTING	265
	BORNEO LITERATURE BUREAU	270
XVI	LOCAL FORCES	272
PART III		
I	GEOGRAPHY AND CLIMATE	277
II	GEOLOGY	282
III	HISTORY	287
IV	SCIENCE AND THE ARTS	302
V	FLORA AND FAUNA	310
VI	ADMINISTRATION	322
VII	WEIGHTS AND MEASURES	330
VIII	NEWSPAPERS AND PERIODICALS	331
	BIBLIOGRAPHY	332
APPENDICES		
A	SCHOOL STATISTICS	339
B	AGRICULTURAL DEPARTMENT ORGANISATION	341
C	AIRCRAFT MOVEMENTS	343
D	CLIMATE	346
E	COUNCILS	350
F	ELECTRICITY	353
G	DISTRICT GAZETTEER	354
H	MAINLY FOR VISITORS	373
I	WARDROBE	377

CONTENTS—*continued*

MAPS

LAND CLASSIFICATION	<i>facing page 54</i>
ROAD MAP	<i>facing page 252</i>
OUTLINE MAP—SCALE 1 : 1,500,000	<i>at end</i>
LAND USE MAP—SCALE 1 : 1,500,000	<i>at end</i>



ILLUSTRATIONS

The Cobbold Commission which visited Sarawak early in the year to ascertain the views of the people regarding the proposals for the establishment of Malaysia. From left to right: Inche Muhammad Ghazali bin Shafie, Dato Wong Pow Nee, Lord Cobbold, Sir David Watherston and Sir Anthony Abell. (S.I.S.) - - - - -

*frontispiece
between pages*

Lord Lansdowne and Tun Abdul Razak, the Chairman and Vice-Chairman respectively of the Inter-Governmental Committee which drew up a report on detailed arrangements for the incorporation of Sarawak as part of Malaysia - - - - -

In November, 1962, the Prime Minister of Malaya, Tengku Abdul Rahman, paid a visit to Sarawak and is shown speaking at a meeting of civil servants at the Jubilee Hall. (S.I.S.) - - - - -

A meeting of the Sarawak Alliance which was formed during the year consisting of Party Negara, Barisan Ra'ayat Jati Sarawak, the Sarawak National Party, Party Pesaka Anak Sarawak and the Sarawak Chinese Association. (S.I.S.) - - - - -

16/17

A meeting of the Sarawak United Peoples' Party. (S.I.S.)

His Excellency the Governor meets Supreme Council members upon his return from leave. (S.I.S.) - - -

After the battle. Limbang Police Station after its recapture from the rebels by security forces. (*Straits Times*) - - - - -

The Public Service Commission was established during the year. The members are from left to right: Mr. Kho Soon Ewe, Mr. R. L. V. Wilkes (Chairman), Mr. Edward Jerah and Abang Haji Mustapha. (S.I.S.)

Some recipients of the Long Service Decoration with the Resident, First Division, Mr. G. Lloyd-Thomas. (S.I.S.)

ILLUSTRATIONS—*continued*

between pages

Many new roads are being built in Sarawak. The photograph shows the Sarikei/Saratok Road where it passes over Bukit Sebangkoi near the border between the Third and Second Divisions. (S.I.S.) - -

Kuching Airport has been substantially extended and improved and is now capable of accepting aircraft of almost any size. (S.I.S.) - - - - -

Large tankers are now able to berth at Sungei Biawak near Pending which greatly facilitates delivery of petrol in bulk. (S.I.S.) - - - - -

Aerial view over Lawas showing the airfield which has been considerably extended. (S.I.S.) - - - - -

Timber extraction work in the Sadong area of the First Division. Timber remains one of Sarawak's most important exports. (S.I.S.) - - - - -

Sarawak is now linked by a direct shipping service maintained by the City Line with Europe. The first such vessel to reach Kuching is shown coming alongside the wharf at Tanah Puteh. (S.I.S.) - - - - -

Great attention is being paid to the instruction of smallholders in improved systems of rubber processing. (S.I.S.) - - - - -

An aspect of improved *padi* planting in Sarawak which is receiving attention is the instruction of Sarawak farmers in the techniques of ploughing with a water buffalo. (S.I.S.) - - - - -

Fresh water fish farming is becoming an important activity in the countryside. The photograph shows the Land Dayak village of Kopit near Bau which possesses a particularly extensive series of fish ponds. (S.I.S.) - - - - -

Attempts are being made to persuade Dayaks and other inland peoples to plant more vegetables with a view to improving their diet as in this photograph of a garden adjoining an Iban longhouse in the Lemanak river. (S.I.S.) - - - - -

A Health Assistant shows a Baram family how to wash the baby. (S.I.S.) - - - - -

Nurses receiving their diplomas after training in the Kuching General Hospital. (S.I.S.) - - - - -

An Anti-Tuberculosis Campaign was initiated during the year. (S.I.S.) - - - - -

48/49

80/81

ILLUSTRATIONS—*continued*

between pages

The very energetic Blind Society has raised sufficient funds to build a modern training centre for the blind. A large proportion of the total funds was raised at a very successful sale of orchids during the Jaycees Trade Fair in June. (S.I.S.) - - - - -	
The various Community Development Schemes continue. The photograph shows instruction at the Long Lama Community Development Scheme. (S.I.S.)	80/81
A newly-trained Iban teacher receives his diploma at Batu Lintang College and proudly wears the ceremonial costume of his ancestors. (S.I.S.) - - - - -	
Sarawak Administrative Officer at work in Matu. (S.I.S.)	
Surveyors using Prismatic compass. (S.I.S.) - - - - -	
Particular attention is paid to In-Service Training in Sarawak. (S.I.S.) - - - - -	112/113
Sarawak possesses one of the best equipped printing works in South-east Asia in the Government Printing Office. (S.I.S.) - - - - -	
A feature of the year was the arrival of a large group of young American members of the Peace Corps. (S.I.S.) - - - - -	
A very successful Sarawak festival was held in June. The Dragon Dance was put on by the Foochow community. (K. L. Pang, Kuching) - - - - -	
Sarawak has derived great benefit from the Colombo Plan. The photograph shows the Sarawak exhibit at the Colombo Plan meeting which took place in Melbourne in November. (Australian News and Information Bureau) - - - - -	
Sarawak in 1962 for the first time won the inter-territorial games with Brunei and North Borneo. (S.I.S.) - - - - -	144/145
Melanau girl at work making a hat. (S.I.S.) - - - - -	
Local Government is well developed in Sarawak. The photograph shows the new Sibü Urban District Council Office under construction. (S.I.S.) - - - - -	
The British Council continues to provide a very useful book boxes scheme for outstation readers. (British Council) - - - - -	
Libraries and Reading Rooms are maintained by several Local Government bodies. The photograph shows the Reading Room in the Sibü Urban District Council Office. (S.I.S.) - - - - -	

ILLUSTRATIONS—*continued*

between pages

The Painted Cave at Niah where Sarawak Museum excavations took place during 1962. Foreground shows boat-shaped prehistoric coffins of ironwood. In the cave's ceiling (see upper right) a series of grottos were discovered which contained abundant human remains. (Sarawak Museum) - - - - -

Batu Ritong, a *megalithic* monument in the Kelabit uplands, where the Sarawak Museum explored and excavated during 1962 showing the Curator and members of the excavation party. (Sarawak Museum)

Airview of Mt. Batu Lawi (6,603 feet), prominent landmark of the Kelabit uplands. (Sarawak Museum) -

Melanau "jerunei" or burial pole of intricately carved ironwood timber being rescued by the Sarawak Museum from the banks of the Oya River at Dalat where it was in danger of being carried away. (Sarawak Museum) - - - - -

176/177

An intricately carved antique Chinese double-bed, a new Museum exhibit with its donor. Mr. Ong Kwan Hin. (Sarawak Museum) - - - - -

A sub-adult Proboscis Monkey (*Nasalis larvatus*) in mangroves of the Sarawak River delta. Unique to Borneo, they are under legal protection. (Sarawak Museum) - - - - -

Albino baby of the Green or Edible Turtle (*Chelonia mydas*) hatched on Talang-Talang Islands during 1962. (Sarawak Museum) - - - - -

Mr. F. D. Jakeway, the Officer Administering the Government, speaking at the opening of the new Minerals and Geology gallery of the Sarawak Museum. (S.I.S.) - - - - -

PART I

GENERAL REVIEW OF THE YEAR

THE year 1962 was a vitally important and eventful one for Sarawak. It saw rapid progress towards the realisation of the Malaysia concept which would bring the country independence in an association of democratic states in South East Asia and, unfortunately, the close of the year saw the outbreak of the tragic and futile rebellion in Brunei which caused serious disturbances and loss of life in the adjoining areas of Sarawak. Nevertheless, much was achieved and the year may well prove to have been one of the most important in the whole of Sarawak's history.

In the field of Malaysia, the early part of the year saw much further activity on the part of the Malaysia Solidarity Consultative Committee. This Committee which had been originally established through the good offices of the local branches of the Commonwealth Parliamentary Association had met in 1961 in Singapore, Jesselton and Kuching. 1962 saw further meetings in Kuala Lumpur, and Singapore, and culminated in the signing of an agreed memorandum setting out the foundations for a practicable and agreed blue print for the new federation. Great credit goes to the members of this committee who played a very important and constructive role.

A Government memorandum on Malaysia and Sarawak was issued in January and was given wide publicity to enable the population to assess what Malaysia would in fact mean to them. Publicity included translations in many local languages and an intensive and sustained programme of explanations over Radio Sarawak.

The Malaysia Commission of Enquiry set up by the British and Malayan Governments was announced in January and given the following terms of reference:—

“Having regard to the expressed agreement of the Governments of the United Kingdom and the Federation of Malaya that the inclusion of North Borneo and Sarawak (together with other territories) in the proposed Federation

of Malaysia is a desirable aim in the interests of the peoples of the territories concerned:—

- (a) to ascertain the views of the peoples of North Borneo and Sarawak on this question; and
- (b) in the light of their assessment of these views, to make recommendations.”

The Chairman of the Commission was Lord Cobbold and the members were Sir Anthony Abell, formerly Governor of Sarawak, Sir David Watherston, formerly Chief Secretary in the Federation of Malaya; Dato Wong Pow Nee, Chief Minister of Penang; and Enche Muhammad Ghazali bin Shafie, Permanent Secretary to the Ministry of Foreign Affairs in Kuala Lumpur. The Commission arrived in Sarawak in February and spent about two months touring intensively every district in the country including many upriver areas. Every possible facility was given for interested persons to meet the Commission and to express their views. The Commission later proceeded to North Borneo and finally left the Borneo territories in April.

The Report of the Commission was published in July. It reported generally in favour of the proposed Federation of Malaysia but made clear the desirability of certain safeguards to satisfy the reasonable views and aspirations of the people of Sarawak. At the same time the British and Malayan Governments announced their decision in principle to establish Malaysia by 31st August, 1963. At a meeting in September Council Negri endorsed the decision on the understanding that the special interests of Sarawak would be safeguarded.

The next step was to set up a strong Inter-Governmental Committee under the Chairmanship of Lord Lansdowne, British Minister of State for Colonial Affairs. The Vice-Chairman was Tun Abdul Razak, Deputy Prime Minister of Malaya. North Borneo and Sarawak were fully represented on this committee which immediately set about the task of working out practical solutions for the various problems involved in the establishment of Malaysia. As a result of much hard work and hard bargaining good progress was made and the Committee was expected to report at the beginning of 1963.

The Prime Minister of Malaya paid a very welcome and popular visit to Sarawak in November.

The problem of purely Chinese communist subversion became more and more serious during the year and firm action had to be taken against a number of leaders of the Clandestine Communist Organisation. Several undesirables born in China were deported during the year and several persons who had been born in Sarawak and on whom restriction orders had been served confining them to small country towns in Sarawak elected to return to China of their own free will. Energetic police action was maintained and resulted in the capture of a very large volume of communist documents. A great deal more was learned about the nature and workings of the movement.

Much of the indoctrination has been taking place through three papers in Kuching, Sibu and Miri which continually published pro-communist articles and communist study material and indulged in a campaign of hatred directed against the British and Malayan Governments and those who agreed with the national education policy of Sarawak. They also laid stress on the glorification of all things Chinese and communist.

A final warning was given to the press on 8th June, but had only a temporary effect. Sedition proceedings had to be taken against several publications and at the end of the year the three main offenders were closed down. The communist movement in Sarawak, which is entirely confined to a small section of the Chinese community, has undoubtedly done that vast majority of loyal Sarawakian Chinese a great disservice.

1962 saw great growth in the political development of Sarawak. Two more political parties were formed—the Sarawak Conservative Party, mainly consisting of Ibans from the Rejang under the chairmanship of Temenggong Jugah, and the Sarawak Chinese Association. These two parties together with three other parties—Party Negara, Barisan Ra'ayat Jati Sarawak and the Sarawak National Party—formed a United Front and towards the end of the year, an Alliance. This marked a very important step forward but was marred by much bickering between the political leaders which seriously prejudices the effectiveness of the Alliance.

Elections on the basis of full adult suffrage will take place in 1963. The three-tier system of indirect elections is being retained.

Borneanisation made steady progress and the Public Service Commission became fully operative under the temporary chairmanship of an experienced officer with wide experience of such Commissions elsewhere.

In common with many other primary producing countries, Sarawak in 1962 was faced with a fall in national income. The price of rubber fell below seventy-five cents per pound for the first time for many years. The price of timber was lower than in the previous year while pepper, though fairly stable, remained at the same low levels as the previous year. The most significant change was undoubtedly the steady fall in the price of rubber.

The effect on Government revenues was not very great and actual revenue collected was slightly above the total estimated largely as a result of an unexpected illipe nut crop early in the year. However, it has to be borne in mind that the fall in the price of rubber affects the livelihood of very large numbers of people all over the country. Excluding imports and exports of Brunei oil there was again an adverse balance of trade amounting \$22 million compared with an adverse balance of \$44 million in 1961.

Private investment continued at a steady pace and more applications were received to set up pioneer industries. As mentioned elsewhere, considerable interest continues to be taken in the coal deposits of Silantek. In addition oil drilling has continued off the coast of Bintulu district and although results have not been of a spectacular nature, the fact that the tests are continuing is at least encouraging. High grade kaolin was discovered during the year in areas adjoining the Silantek coal field and some interest has been shown in working these deposits.

The response to the establishment of the Borneo Free Trade Area between Sarawak and North Borneo was disappointing although it was of course realised that the benefits would be long term rather than short term in nature. Thoughts have now turned to the much larger concept of Malaysia which has overtaken the more limited one affecting the two British Borneo Territories only.

During the year a study of Sarawak's gross domestic product was undertaken. Although the figures must be treated with extreme caution in view of the great difficulty of actual assessment in the context of Sarawak, they suggest that the gross domestic product was of the order of \$600 per head in 1961 and this compares with an earlier estimate of \$576 per head made during Professor Silcock's survey in 1955. These two figures, if correct, imply a rate of growth of per capita income of the order of 0.7 per cent per annum over the last six years. At this rate it would take Sarawak forty years to reach the present Malayan level of \$800 per head. Against the future prospects for rubber prices it is all too evident that the rate of investment must be greatly accelerated.

Particular attention was paid during the year to problems of economic development. Rapid progress has now been made in road construction, a fact which is quickly brought home to anyone now flying over the Sarawak countryside. The road from Simanggang towards Saratok and the Rejang reached Engkilili and construction is now proceeding on the north bank of the Batang Lupar. The Sarikei/Binatang road was finally opened to traffic. A spur road was completed to Nanga Pakan on the Julau and two other spurs running south towards Roban and east towards Julau are making rapid progress. The road running out from Sibu towards the Ulu Oya moved steadily forward and a good deal of additional road construction went on in the Fourth and Fifth Divisions.

The closely related problems of land tenure received particular attention. After careful investigation, a considerable area of land was opened up for mixed zone settlement on the Sibu/Oya road. An expert committee studied the whole problem of the Sarawak land system and submitted a report which was under study at the close of the year. Undoubtedly very considerable changes are called for in the land systems of Sarawak if the rate of economic progress is to be accelerated so as to ensure adequate economic development which can and will provide a higher standard of living for a rapidly increasing population.

The year saw the introduction of a direct shipping service between Europe and the new port of Kuching. At the same time

a new waterway known as the Paloh Channel was pioneered in the Rejang which enables ships 400 feet long and 18 feet in draft to reach Sibü. The importance of this new route for the future development of Sibü is very great.

Good progress was made in the field of agriculture though the rate of new subsidised rubber planting is giving cause for some concern. Agricultural extension is progressing steadily and is clearly making a very important impact on the way of life of those rural areas which have so far received agricultural extension teams.

The problem here is simply the enormous size of the area which has to be tackled and the difficulty of training and developing sufficient human resources to cope effectively with the needs for better living in the countryside.

Investigations were going on during the course of the year as to the full extent of the Silantek coal field which adjoins the Simanggang road about eighty miles from Kuching. Detailed investigations are being undertaken by a team of Japanese geologists but the full extent of the coal resources in the field were not finally assessed by the end of the year. Very extensive road development will be required if this field is to be found worth exploiting, including the complete reconstruction of the road between Kuching and Serian.

Sarawak was pleased to welcome a very important Japanese Trade Mission in September. The trade relationship between Sarawak and Japan is already an important one and is likely to become increasingly so in years to come.

Considerable additional work was undertaken in the field of air communications. The extension of the Kuching airport runway was completed and a very satisfactory Viscount service to Singapore is now operated. Sibü airport was being improved to take the new Fokker Friendships which will be introduced by the Malayan Airways in 1963. In the interior Belaga airfield was reconstructed. The network of interior airstrips which now exists in Sarawak was found to be of great use during the emergency at the end of the year.

Sarawak continued to receive a great deal of most valuable and appreciated help not only from the British Government

through the Colonial Development and Welfare Fund but from several other friendly countries, particularly the Governments of Australia, New Zealand and Canada under the Colombo Plan and from the Asia and Nuffield Foundations. The Colombo Plan has undoubtedly been of immense value to Sarawak both in providing additional training for Sarawak boys and girls and in the provision of experts and capital assistance. Sarawak owes a great debt to all the donor countries and foundations though of course it must be realised that by far the biggest contribution is made by the British Government in the form of Colonial Development and Welfare Fund assistance.

Sarawak was pleased to welcome during the course of the year the American Peace Corps of whom some thirty members arrived to take up duties in Sarawak.

In educational matters perhaps the most important step to be taken during the year was the conversion scheme for Chinese secondary schools. Such schools are required to convert gradually to English as the medium of instruction if they are to continue to receive Government grants-in-aid. About half of the Chinese secondary schools agreed to the conversion. Serious difficulties however arose in Kuching where the middle schools' managements declined to convert and subsequently had drastically to reduce the salaries of their teachers. The schools had to be closed for some time. At the end of the year it had been decided to reopen one of the schools in 1963 as an aided secondary school. A regrettable aspect of the whole affair was the degree to which politics of a Chinese separatist flavour entered into what should have been a purely educational problem. Good progress was made in building new Government secondary schools.

In the field of medicine, there was some recurrence of cholera outbreaks mostly along the Indonesian borders but prompt measures were taken to contain these outbreaks and they did not spread to the main centres of population. The demand for medical services is rising very rapidly.

In June a very successful Sarawak Festival took place in Kuching under the auspices of the Sarawak Arts Council and was attended by the largest crowd ever seen in Kuching.

In sport, Sarawak for the first time won the inter-territorial athletics contest. Steady improvement in standards has continued

unabated. An important new development has been the construction of a number of public swimming pools. Pools were under construction in Kuching, Simanggang and Sibü and the Simanggang pool was nearly ready at the end of the year.

The close of the year saw, on the inauspicious anniversary of December 8th, an outbreak of violence unparalleled in the history of peace-time Sarawak. Early in the hours of that morning, at the same time as the rebellion broke out in Brunei, disturbances occurred both in the Limbang and Sibüti districts of Sarawak. In Limbang rebel forces overran the town and captured the police station which was gallantly defended by the constabulary, four members of which lost their lives. All Government staff were also captured. The rebels held Limbang until December 12th when the town was stormed by a force of Royal Marines making a hazardous frontal assault in the hopes of saving the captured Government servants from possible danger by the most rapid action possible. The Marines lost five men killed in the assault. In this and during the earlier attack on the police station a total of at least twenty-one rebels lost their lives.

Energetic action was taken by the security forces and by the Government staff who quickly restored all services and had nearly brought the district back to normal at the end of the year. But the revolt has left a severe scar on one of the happiest and most attractive districts in Sarawak. The rebels were mainly Kedayans and Brunei Malays who had settled in the district.

In Sibüti rebel Kedayans captured the fort and Government staff and held out for several days. The station was recaptured by a detachment of the Green Jackets. Five rebels were killed in the operation. However, the disturbances were less severe here than in Limbang and although there was much tension and anxiety, they did not extend to Miri and other areas of the Fourth Division.

A feature of the rebellion was the steadfast and loyal conduct of the vast majority of the people. Government staff stayed at their posts and kept essential services running and members of the public enlisted in large numbers in the newly raised Home Guard.

PART II

I

POPULATION

THE last census of population in Sarawak was taken in June, 1960. At that time the population was 744,529. A calculation based on the number of births and deaths subsequently registered shows the population in June, 1962, to have been 776,990, made up as follows:—

<i>Cultural Group</i>	<i>Population</i>	<i>Percentage of Total</i>
Chinese	244,435	31.5
Sea Dayak	241,544	31.1
Malay	136,232	17.5
Land Dayak	60,890	7.8
Melanau	45,976	5.9
Other Indigenous	39,262	5.1
Other Non-Indigenous	6,914	0.9
European	1,737	0.2

Although it is certain that the population is increasing these figures must be treated with reserve since the registration of births and deaths is far from complete. The proportion of births registered increases as the demands of modern life, particularly in relation to education, make it essential for an individual to be able to prove when and where he was born but there is no corresponding incentive to report a death and many go unrecorded.

The population calculation does not take account of the number of persons leaving and entering the country. Most of those who come here are transitory visitors and temporary residents employed by various concerns to do work for which local persons are not available. Permits and certificates allowing permanent residence are issued at the rate of only about 200 a year and of these more than half have been elderly persons joining relatives already established in Sarawak. It is

very rare for anyone who has made his home in Sarawak to leave the country permanently.

The Chinese are probably now the largest group and have a greater natural increase than the others. As in other parts of what they call "The South Seas" a large proportion are engaged in trade and most of them live in towns and smaller trading centres. Over half are in and near the three principal towns of Kuching, Sibü and Miri. There are, however, substantial communities of rural Chinese, mainly smallholders cultivating rubber and pepper. The largest concentrations are in the First Division and the Lower Rejang area. Almost all the younger Chinese were born in Sarawak, their parents having immigrated from China in the years before the war.

Approximately equal in numbers to the Chinese are the Sea Dayaks, now more commonly called Ibans. In spite of its name this group, together with the Land Dayaks and most of the smaller groups comprising "other indigenous", is an inland longhouse dwelling people. Unlike other similar groups, the Ibans like to settle in new places and are now found in most parts of the country including the delta areas of the Rejang and Batang Lupar Rivers. All longhouse people like to plant dry land rice by the shifting cultivation method but they own and cultivate substantial areas of rubber also and are now planting high-yielding rubber under Government supervision and subsidy.

The Malays and Melanaus are mostly swamp land rice farmers, fishermen and sago cultivators. There are also a considerable number living in *kampongs* in and around the main towns. The urban Malays go in for salary and wage-earning rather than trade and many are employed in the Government service. Melanaus specialise in sago cultivation. All Malays and some Melanaus are Muslims.

All groups of the population have at least one distinctive language. Malay is, however, widely understood sufficiently well for ordinary day-to-day purposes, and the use of English is spreading fast with the development of education. The traveller equipped only with English and Malay will find his greatest difficulty in those rural areas inhabited mainly by Chinese.

II

OCCUPATION, WAGES AND LABOUR ORGANISATION

THE majority of the people of Sarawak continue to be engaged in agricultural pursuits. Many of the permanent inhabitants, other than Chinese, are self-employed on their rice farms, but few depend on this alone as full time gainful employment. A number own small rubber estates or sago plantations, whilst certain of the coastal peoples engage in fishing. Many of these so called self-employed persons take up casual employ in the timber industry and as rubber tappers. This applies particularly during those periods when work is completed on their *padi* farms, the period between planting and harvesting. Rubber and pepper continue to be the main sources of income for Chinese farmers. The price of rubber, though it was not as high as for the previous year, remained fairly steady with a slight fall taking place in the middle of the year. The price, however, improved towards the end of the year. The quantity exported was slightly below that of 1961. The prices of white and black pepper declined steadily throughout the year but the quantities exported were greater than in 1961.

Sarawak Shell Oilfields Limited remains one of the largest private employing firms in Sarawak. In the field at Miri and in the refinery at Lutong there is a senior staff of thirty-six, a regional staff of 176 and 590 skilled and 243 unskilled workers, among whom Malays, Chinese and Dayaks respectively are roughly in the proportion of 64.7, 18.8 and 14 per cent, with the balance of 2.5 per cent being composed of a mixture of races. A considerable number of skilled and unskilled workers are employed by the Company's contractors.

Rates of pay of the Company's workers range from seventy-eight cents per hour for unskilled workers to \$1.93 per hour for the highest skilled artisans. Weekly hours of work are forty-three and a half and overtime pay is one and half times the

ordinary rate. Two weeks' annual leave with pay is given and, for sickness, full pay for the first four weeks and half pay for the next eight weeks, after which time each case is reviewed.

The Company provides housing for all its employees and maintains a high standard of health and medical services. Employees' sporting and social clubs are provided by the Company. Workers' representatives, elected annually, meet the management each month to discuss working conditions, grievances and other matters affecting mutual relations and understanding. There are Malay, Chinese and Dayak representatives chosen roughly in proportion to the racial strengths. Subjects discussed during the year included housing, transport, redundancy, transfers, safety, medical and health, leave, grading of jobs, wages, allowances, overtime, housing and household facilities.

There is a training scheme, run in conjunction with the associated company in Brunei, designed to give boys theoretical knowledge comprising training on the job and in the workshops in electrical, radio and telephone, and mechanical trades. Selected employees are sent for training overseas.

Government technical training is carried out on a limited scale by the various technical departments. The Brooke Dockyard has one apprentice and his training covers the repair and overhaul of marine crude oil engines, auxiliary machinery and general mechanical engineering work. The Agriculture Department conducts co-educational training schemes for twenty-seven men and twenty-one women at their training centres at Tarat and Kuching. The Public Works Department has trained selected candidates in the various fields of engineering. The Sarawak Electricity Supply Company has in training at the moment four student apprentices who undergo training throughout all sections of the Company including office training. Two trade apprentices are receiving training in power station work, general fitting, overhead lines and distribution work.

The construction of both public and private buildings in Kuching and the larger towns and the extensive development programme of the Government continue to absorb considerable numbers of both skilled and unskilled workers in the building

trades. Bauxite mining, sago production, timber extraction, saw-milling, dock work, the retailing of imported goods, transport and light industry, provide the main fields of gainfully employed occupation other than for those employed in Government service. Development of main trunk roads has increased employment opportunities.

Wages levels generally have been maintained. During 1962 the cost of living was slightly different in both the oilfields and in Kuching. In the latter there was a decrease of 0.8 points in the price index. Comparisons of the average figures for the years 1959, 1960, 1961 and 1962 with the basic figure of 100 for August, 1950, were respectively 112.64, 111.12, 108.33 and 108.25.

There was little change in the wages earned in particular industries throughout Sarawak. The daily earnings of a rubber tapper ranged from \$1.50 to \$4.96. Added to this were perquisites in the form of free housing and other amenities. Wages of unskilled, semi-skilled and skilled workers varied from \$3.00 to \$14.00. Rates in the sawmills and timber areas varied from \$3.00 to \$15.00, whilst for those employed on road and building construction they varied from \$3.50 to \$10.00. Wharf labourers earned from \$8.00 to \$10.00 per day during the year. Standby money is paid by the Kuching Port Authority at \$2.00 per day.

Hours of work in the main industries remained unchanged and though governed by the eight-hour day and six-day week as provided for in the Labour Ordinance, many work a forty-four hour week with office staff working a thirty-six hour week.

Annual leave is granted by most employers ranging from seven to fourteen days. Government, in respect of daily paid labour, increased leave from seven working days to twelve working days. The increase became effective as from the 1st October, 1962.

Considerable importance is attached by Government to promoting the healthy growth of trade unions in the territory and the Commissioner of Labour and the Registrar of Trade Unions are in close touch with these organisations of workers for the purpose of advising them on sound trade union lines. District Officers act as Deputy Commissioners of Labour and assist the

Lord Lansdowne and Tun Abdul Razak, the Chairman and Vice-Chairman respectively of the Inter-Governmental Committee which drew up a report on detailed arrangements for the incorporation of Sarawak as part of Malaysia.

(S.I.S.)

In November, 1962, the Prime Minister of Malaya, Tengku Abdul Rahman, paid a visit to Sarawak and is shown speaking at a meeting of civil servants at the Jubilee Hall.

(S.I.S.)

A meeting of the Sarawak Alliance which was formed during the year consisting of Party Negara, Barisan Ra'ayat Jati Sarawak, the Sarawak National Party, Party Pesaka Anak Sarawak and the Sarawak Chinese Association.

(S.I.S.)

A meeting of the Sarawak United Peoples' Party.

(S.I.S.)

His Excellency the Governor meets Supreme Council members upon his return from leave.

(S.I.S.)

After the battle. Limbang Police Station after its recapture from the rebels by security forces.

(Straits Times)

The Public Service Commission was established during the year. The members are from left to right: Mr. Kho Soon Ewe, Mr. R. L. V. Wilkes (Chairman), Mr. Edward Jerah and Abang Haji Mustapha.

(S.I.S.)

Some recipients of the Long Service Decoration with the Resident, First Division, Mr. G. Lloyd-Thomas.

(S.I.S.)







RAPAT UMUM SUPP. BAGI MENENTANG RANCHANGAN MALAYSIA
S. U. P. MEMBERS' MEETING TO OPPOS
T. K. N. A. NYEKONG

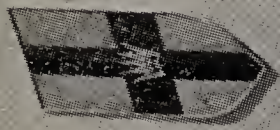
AN FA RESOLUTELY STRUGGLE
GITA M AGAINST COLONIAL RULE!

NO ENTRY



DEPT

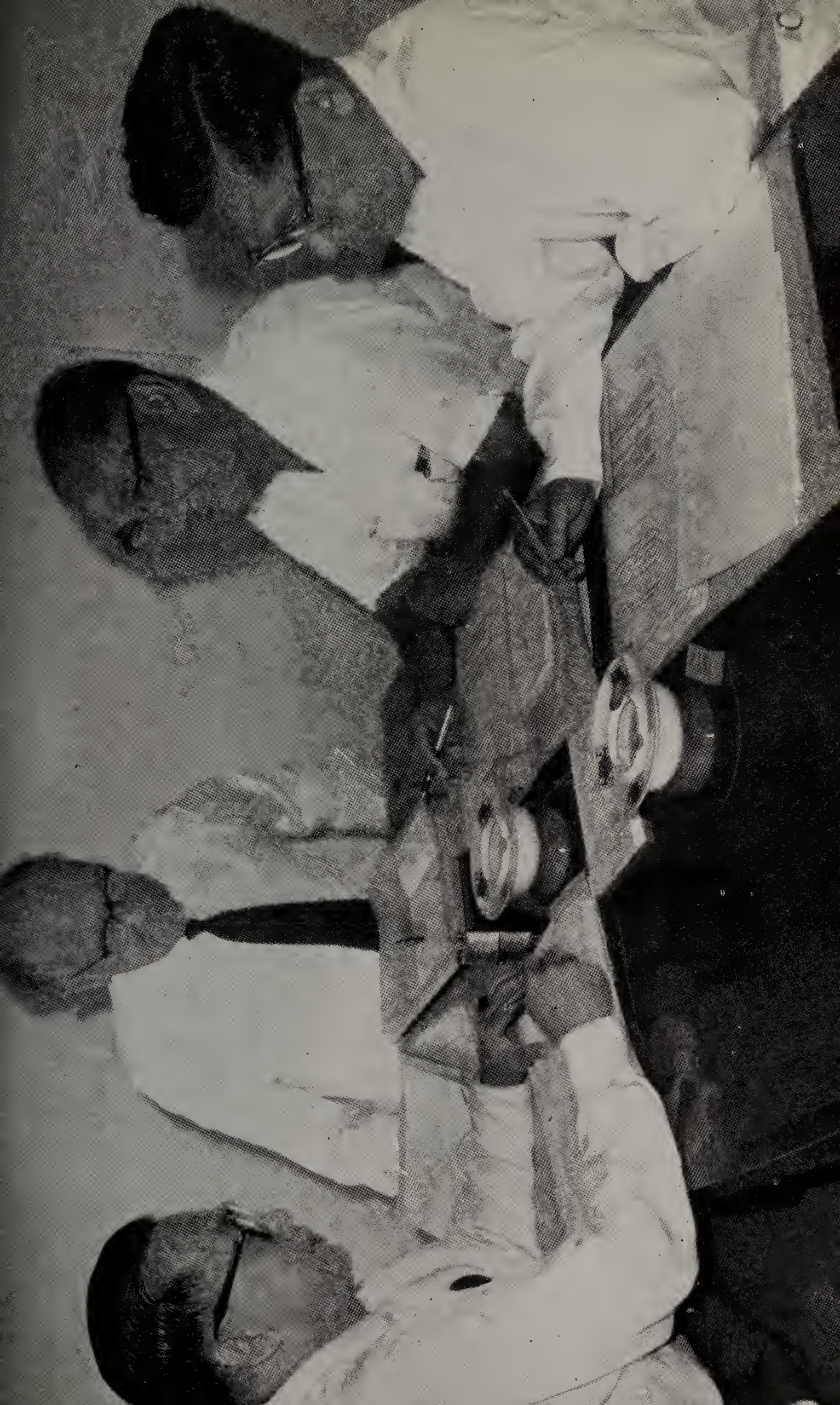
1958



POLICE

LIMBANG







Commissioner of Labour in seeing that labour legislation is observed in their respective areas. The Labour Ordinance, embodying the principles of the International Labour Conventions, protects workers in matters relating to hours of work, health conditions, the age of admission to employment, medical treatment, provision of written contracts of employment, notice of pay, and conditions of extra-territorial recruitment.

The Labour Advisory Board has had under consideration for some time the working conditions of those employed in the retail trade. A draft Bill to be known as the Shop Assistants Employment Bill is awaiting the approval of Government. The Bill provides for annual holidays with pay, sick leave, weekly day of rest, hours of work and all other matters related to good conditions of employment.

Inspections are now being carried out in the building industry, facts and figures obtained from these inspections will reveal whether or not the conditions of employment are below standard. Other occupations listed for inspection are workshop, sawmills, timber camps, and the retail trade, a trade which, with the enactment of the Shop Assistants Bill, will become the subject of enforcement inspection. Factories, all of which may be termed as light industry, will eventually be inspected in order to ensure that conditions governing safety, health and welfare are being observed.

Two trade unions were registered in 1962 (Sibu Coffee Shop Employees' Union with membership of sixty members and Kuching Port Authority Staff Union with membership of 130 members). The older and larger unions continue to develop reasonably well and have shown an increase in membership, but some of the smaller ones, more in the nature of guilds than trade unions, are too limited in numbers and scope to be very effective. It is eventually hoped to run simple trade union courses as, generally speaking, union members' knowledge of trade union procedure is very limited. The Chairman of the Public Works Department Workers' Union is attending a trade union course in Calcutta sponsored by the International Confederation of Free Trade Unions. Extra leave has been granted to enable him to attend a symposium in Delhi during which he will visit Bombay and Ahamedabad.

Industrial disputes are infrequent and no stoppage occurred throughout the year under review. Minor wage disagreements were settled following reference to the Labour Department. The demand for labour is still considerable and in consequence wages in general tend to remain at a fairly high level.

III

PUBLIC FINANCE AND TAXATION

REVENUE AND EXPENDITURE

SARAWAK'S budget is divided into two parts, Recurrent and Capital. The Part I (Recurrent) budget includes the cost of services which are an annual commitment recurring indefinitely. The aim is to keep this expenditure within the country's reliable recurrent revenue. Revenue accruing in good years and of a type which cannot be relied on, for example extra export duty on rubber when world prices are high, is transferred to the Capital Fund and used for capital expenditure (the Part II Budget). This facilitates long-term development planning. In addition to these contributions from annual revenue, the Capital Fund derives revenue in the form of grants from the Colonial Development and Welfare Fund and other sources, contributions from Sarawak's surplus balances and from funds raised by loans.

Part I, Recurrent Budget

When the 1962 Estimates were presented it was estimated that there would be a deficit of \$2.3 million. A review of the Estimates later in the year showed that despite the lower prices for exports the final revenue for 1962 would be about \$3 million more than the original estimate of \$77.1 million and the recurrent expenditure would be about \$1.8 million less than the original estimate of \$68.8 million. The increase in revenue is due almost entirely to the unexpected illipe nut crop which occurred early in the year.

Although total revenue was higher than originally estimated, reliable revenue was about \$1 million less than estimated. In addition there was an increase of \$1 million in extraordinary revenue in respect of sale of land. The increases in unreliable revenue and the extraordinary revenue made it possible for the contribution to the Capital Fund to be increased from the original estimate of \$10.8 million to \$15.1 million.

There was under expenditure on the recurrent budget, mainly as a result of inability to recruit all the additional staff provided for in the Estimates, and as this under expenditure was greater than the fall in reliable revenue, the anticipated deficit was reduced to about \$1.6 million.

The revised Estimates of Revenue and Expenditure, 1962, compared with 1960 and 1961 are as follows:—

	<i>Actual 1960 \$</i>	<i>Actual 1961 \$</i>	<i>Revised Estimates 1962 \$</i>
Ordinary Revenue	83,394,882	81,475,474	78,157,160
Extraordinary Revenue	1,089,179	1,144,791	2,111,800
Total Revenue	84,484,061	82,620,265	80,268,960
Less Contribution to Capital Fund	27,589,180	17,444,791	15,111,800
	56,894,881	65,175,474	65,157,160
Recurrent Expenditure	55,715,610	62,813,909	66,800,000
Surplus + /Deficit—	+ 1,179,271	+ 2,361,565	—1,642,840

The estimated General Revenue Balance at 31st December, 1962 was \$37,852,508.

REVENUE

The main heads of Revenue are:—

<i>Ordinary Revenue</i>	<i>Actual 1960 \$</i>	<i>Actual 1961 \$</i>	<i>Revised Estimates 1962 \$</i>
Customs	46,806,459	38,996,031	38,550,000
Licences, Taxes and Internal Revenue	4,092,185	4,051,953	3,882,200
Fees of Court or Office, etc.	977,033	921,890	1,023,381
Departmental Services	2,680,283	2,736,305	1,462,679
Reimbursements	999,287	2,174,061	3,284,100
Land	1,091,701	1,373,087	1,705,300
Forestry	5,207,926	5,718,257	4,100,000
Posts and Telegraphs	2,430,589	3,313,856	3,131,000
Marine	717,694	834,271	865,000
Revenue from Government Property	1,416,435	1,545,009	1,490,100
Interest	3,925,284	6,347,021	6,336,000
Income Tax	12,401,561	12,625,033	11,500,000
Miscellaneous	648,445	838,700	827,400
	(83,394,882)	(81,475,474)	(78,157,160)

<i>Ordinary Revenue</i>	<i>Actual 1960 \$</i>	<i>Actual 1961 \$</i>	<i>Revised Estimates 1962 \$</i>
<i>Extraordinary Revenue</i>			
Land Sales	400,672	599,211	1,800,000
Loan Repayments	336,814	343,368	238,300
Other Extraordinary Revenue	351,691	196,868	73,500
Colonial Development and Welfare Grants	2	5,344	—
	(1,089,179)	(1,144,791)	(2,111,800)
	<u>\$84,484,061</u>	<u>\$82,620,265</u>	<u>\$80,268,960</u>

EXPENDITURE

Heads of Expenditure are:—

PART I

<i>Head</i>	<i>Actual 1960 \$</i>	<i>Actual 1961 \$</i>	<i>Revised Estimates 1962 \$</i>
Governor	174,066	165,405	169,358
Rajah's Dependants	29,273	29,139	24,901
Legislature	—	107,572	119,717
Administration	2,764,809	2,879,512	3,082,975
Agriculture	1,578,561	1,833,018	2,174,206
Audit	147,267	164,735	182,909
Borneo Literature Bureau	—	78,705	82,672
Boys' Home	50,164	53,497	54,312
Broadcasting	704,064	793,930	903,017
Civil Aviation and Meteorological Service	506,840	686,218	702,161
Constabulary	4,270,425	4,443,266	4,681,070
Co-operative Development	263,266	282,925	322,670
Defence and Internal Security	27,076	27,884	40,000
Education	9,758,830	10,710,625	11,800,668
Forestry	647,891	818,767	1,090,012
Geological	316,932	374,053	416,712
Immigration and National Registration	68,979	92,313	104,243
Information Service	249,888	403,078	454,039
Inland Revenue	160,834	284,496	276,027
Judicial	403,514	456,164	497,767
Labour	14,419	50,132	77,962
Lands and Surveys	2,659,765	3,100,388	3,531,461
Land Transport	81,459	90,583	101,943
Legal	135,949	148,212	181,313
Local Authorities	2,565,118	2,792,889	2,903,774
Marine	1,589,989	1,642,840	1,756,792

<i>Head</i>	<i>Actual 1960 \$</i>	<i>Actual 1961 \$</i>	<i>Revised Estimates 1962 \$</i>
Medical	6,038,110	6,653,245	7,199,176
Miscellaneous Services	1,909,364	2,672,584	2,664,514
Municipality of Kuching	550,121	686,202	615,000
Museum	157,724	189,664	226,670
Pensions and Gratuities	3,273,781	3,175,684	3,685,342
Posts and Telegraphs	2,465,570	2,835,472	3,086,801
Printing	682,649	773,875	892,199
Prisons	316,555	344,554	353,692
Public Service Commission	—	23,228	92,122
Public Works Department	2,293,112	2,904,750	2,945,886
Public Works Recurrent	4,738,157	5,020,210	4,118,900
Registrar-General	—	—	7,772
Secretariat	911,920	962,462	1,125,772
Trade and Customs	1,388,498	1,562,250	1,609,855
Treasury	510,844	549,467	578,802
Debt Charges	1,193,354	1,949,916	1,952,619
	(55,599,137)	(62,813,909)	(66,887,803)
Contribution to Capital Account	27,589,180	17,444,791	15,111,800
Interest	116,473	—	—
	<u>\$83,304,790</u>	<u>\$80,258,700</u>	<u>\$81,999,603</u>

Local Authorities Investment Fund ..	\$ 790,604.91
Kuching Recreational Fund ..	575,469.98
Simanggang Recreational Fund ..	125,153.23
Security Deposits ..	155,849.85
Other ..	2,007,883.40
	<u>\$ 3,654,961.37</u>
Special Funds ..	20,876,767.10
Trading Account—Food Control ..	1,727,865.20
Current Accounts ..	684,171.94
Allotments ..	21,522.44
Drafts and Remittances ..	335,071.27
Colonial Development and Welfare Deposit Account* ..	448,519.55
Overseas Service Aid Scheme Deposit Account ..	431,542.22
Capital Fund Account ..	34,268,969.61
General Revenue Balance:—	
Balance at 31.12.60 ..	\$36,729,912.28
Add Surplus and Deficit Account ..	2,361,565.00
	<u>39,091,477.28</u>
Less Nett Loss on Transfer and Redemption of Investments ..	15,382.93
	<u>39,076,094.35</u>
Add Appreciation of Investments ..	419,253.63
	<u>39,495,347.98</u>
Balance at 31.12.61 ..	

\$101,944,738.68

Contingent Liabilities:

There are contingent liabilities in respect of the following:—

Outstanding balance of Shophouse Rehabilitation Loans granted by the Chartered Bank under guarantee by the Government ..

\$ 709.50

Post Office Savings Bank, excess of liabilities over assets

234,573.01

\$235,282.51

The Public Debt at 31st December, 1961 was \$25,099,738.57.

*Not including under-issues due by Her Majesty's Government in respect of certain Colonial Development and Welfare Schemes.

In Hand ..	\$ 403,495.17
At Banks ..	3,099,190.93
In Transit ..	469,040.49
	<u>\$ 3,971,726.59</u>
Balance with Crown Agents ..	1,947.50
Fixed Deposits with Banks ..	21,554.96
Joint Consolidated Fund ..	9,145,714.30
General Revenue Balance Investments:—	
Securities at middle market value ..	60,345,963.19
Investments etc. on behalf of Special Funds:—	
Securities at middle market value ..	\$18,282,235.10
Deposit: Joint Consolidated Fund ..	595,434.91
Deposits: Joint Miscellaneous Fund ..	713,756.45
Fixed Deposits with Bank ..	50,000.00
Deposits: Post Office Savings Bank ..	24,643.00
	<u>19,666,069.46</u>
Deposits: Joint Miscellaneous Fund on behalf of Local Authorities Investment Fund ..	790,604.91
Deposit: Joint Miscellaneous Fund on behalf of Kuching Recreation Fund: ..	512,646.04
Fixed deposit with bank on behalf of Simanggang Recreation Fund: ..	124,321.37
Advances:—	
Special Advances ..	978,473.74
In anticipation of Loans ..	5,669,031.25
Other ..	680,583.57
	<u>7,328,088.56</u>
Current Accounts ..	36,101.80
	<u>\$101,944,738.68</u>

Share Assets:

The Government held the following fully-paid shares:—

20,000 shares in Malayan Airways Limited, nominal value \$10 each.

44,370 shares in Borneo Airways Limited, nominal value \$10 each.

11,000,000 shares in Sarawak Electricity Supply Company Limited, nominal value \$1 each.

500,000 shares in Borneo Housing Development Limited, Nominal value \$1 each.

Part II, Capital Budget

The Capital Budget includes Development Plan Schemes and other Capital Works.

The Current Development Plan covers the period 1959/1963, and is estimated to cost a total of \$160,640,814 which is allocated to eight main headings, as follows:—

	\$
Agriculture and Fisheries	27,000,275
Forestry	732,232
Communications	60,960,590
Fuel and Power	4,100,000
Education	17,731,741
Medical and Health	9,457,807
Water Supplies	8,201,722
Miscellaneous	32,456,447

Other Capital Works consist of Public Works Non-Recurrent and other works which are not a part of the Development Plan but which are necessary to meet the expansion of services of Government Departments.

At the beginning of the year, the Fund had a balance of about \$34.3 million. Contributions to the Fund during 1962 amounted to about \$31.5 million made up of the following:—

	\$
Colonial Development and Welfare	
Grants	10,128,663
Contributions from General Revenue	15,111,800
Advances in anticipation of loans to be raised	3,499,236
Rubber cess	1,800,000
Oversea Service Aid Scheme	250,000
Contribution from Malaria Eradication Special Account	603,996
Contribution from Asia Foundation	60,000
Miscellaneous Revenue	55,000
Total	31,508,695
Add Balance at 1.1.62	34,268,970
	<hr/>
	\$65,777,665

Capital Fund expenditure for 1962 was originally estimated at \$54.2 million. The revised estimates indicate capital expenditure of about \$44.9 million. The Fund was thus expected to have an estimated balance of about \$21 million at the end of the year to be carried forward to the following year.

The revised capital expenditure for 1962 compared with 1960 and 1961 is as follows:—

<i>Development Plan Schemes</i>	<i>Actual 1960</i>	<i>Actual 1961</i>	<i>Revised Estimates 1962</i>
	\$	\$	\$
Agriculture	4,451,422	3,697,688	5,034,723
Broadcasting	106,928	22,155	77,400
Civil Aviation	338,002	1,019,574	1,261,628
Community Development	256,174	332,118	424,740
Education	1,904,194	3,125,253	3,539,133
Fisheries	3,736	9,353	13,250
Forestry	29,169	77,376	144,297
Fuel and Power	500,000	500,000	1,000,000
Geological	20,269	7,791	—
Government Buildings	602,682	898,761	856,663
Housing	1,276,594	—	—
Land	349,745	231,584	1,529,344
Medical	1,862,249	1,588,367	1,547,547
Port Development	1,852,376	1,647,751	606,786
Research and Investigation	69,362	157,238	181,709
Roads and Bridges	6,842,299	6,560,287	11,316,386
Social Welfare	6,451	—	—
Telecommunications	571,483	209,482	83,152
Town Development	382,923	579,230	415,779
Water Supplies	419,202	2,351,020	2,161,510
Waterways	33,910	79,680	27,484
Development Staff	161,777	135,207	632,286
Plant and Equipment	1,206,035	3,816,852	4,755,240
Miscellaneous	—	307,556	199,300
	(23,246,982)	(27,354,323)	(35,808,357)
<i>Capital Works</i>			
Public Works Non-Recurrent	3,911,207	3,540,164	4,868,680
Other Capital Expenditure	1,203,966	1,707,849	4,081,959
Loans	169,609	75,709	149,000
	(5,284,782)	(5,323,722)	(9,099,639)
	<u>28,531,764</u>	<u>32,678,045</u>	<u>44,907,996</u>

These figures demonstrate the steadily increasing capacity to undertake capital expenditure, and therefore the accelerating pace at which the development of Sarawak is being undertaken.

Public Debt

As at 31st December, 1962, Sarawak's public debt amounted to \$24,885,623, comprising the following:—

(a) Debenture Bonds issued at \$10 each and redeemable at \$14 each; the bonds are drawn annually and will be redeemed in full by 1968	\$ 1,320,074
(b) 5¼% Registered Stock (1966/1968)	\$ 3,000,000
(c) 6¼% Stock (1975/1980)	\$20,565,549

The proceeds from these loans have been spent on development works. The very small size of the public debt when contrasted with the substantial development expenditure undertaken is accounted for by the fact that it has been possible largely to finance the latter from the substantial surpluses which accrued during the Korean War boom and subsequently when rubber prices were high. This happy position cannot be expected to continue.

Customs Tariff

The Customs tariff is divided into two parts: import duties on tobacco, liquor, petroleum products, textiles, manufactured articles, and a variety of other commodities; and export duties on rubber, pepper, *jelutong*, illipe nuts, copra, *damar*, bauxite, edible birds' nests and sea produce. The export duties are generally on sliding scales which take less by way of tax when prices are low and more when they are high. However early in the year the export duty on illipe nuts was revised to \$8.00 per picul instead of a sliding scale charge with a maximum of \$10.00 per picul. A new item was added to the export tariff, namely coal at 5 per cent *ad valorem*. In December, import duty on cigarettes was increased from \$8.30 per pound to \$10.00 per pound and that on tobacco was increased by \$2.00 per pound

to \$6.00 per pound unmanufactured, \$10.00 per pound manufactured and \$6.50 per pound for others.

The Borneo Free Trade Area Agreement between the Governments of Sarawak and North Borneo came into effect from 1st January, 1962. With the exception of a few items, the Customs tariffs in the two territories are uniform. Under the Agreement, all goods, other than a few excepted ones, imported from North Borneo which have been legally imported into North Borneo and which are transferred to Sarawak, and all goods produced or manufactured in North Borneo, are exempted from Sarawak import duty. The same exemption is granted by North Borneo in respect of goods imported into North Borneo from Sarawak.

The Free Trade Area Agreement was designed to give encouragement to further investment in local industries. The response so far has been disappointing. The benefits were expected in any event to be long term rather than short term, but an additional reason for the relative lack of response to the creation of the Borneo Free Trade Area has been the possibility of wider common market arrangements which discussions regarding Malaysia have given rise to.

Excise Duty

Excise duty is levied on locally manufactured cigarettes, arrack, certain wines, matches and petroleum products. Excise on rubber shoes and slippers was lifted in July and that on cigarettes was reduced from \$3.50 per pound to \$3.00 per pound in December.

Under the terms of the Borneo Free Trade Area Agreement, goods on which excise is payable if manufactured in Sarawak will, when exported to North Borneo, be exempt from Sarawak excise and be liable to excise in North Borneo and vice versa.

Stamp Duty

Stamp duties are imposed on all documents required to be stamped under the provisions of the Stamp Ordinance (*Cap. 92*). They include duty on cheques, bills of exchange, promissory notes, agreements, contracts, affidavits, declarations of trust and instruments creating an annuity.

Income Tax and Trade Licence Fees

Under the Inland Revenue Ordinance, 1960, four different categories of tax are imposed, as follows:—

- (a) Property Tax;
- (b) Salaries Tax;
- (c) Profits Tax; and
- (d) Interest Tax.

The provisions for the imposition of Property Tax have not yet been brought into operation.

Salaries Tax was revised in December, 1962, and will be levied on chargeable income as follows with effect from 1st January, 1963:—

On the first \$5,000	5 per cent
On the next \$5,000	6 „ „
On the next \$5,000	7 „ „
On the next \$5,000	8 „ „
On the next \$5,000	10 „ „
On the next \$5,000	15 „ „
On the next \$5,000	20 „ „
On the next \$5,000	25 „ „
On the next \$5,000	30 „ „
On chargeable income in excess of \$45,000	35 „ „

The total tax payable by any person is limited to 10 per cent of his assessable income. To arrive at chargeable income, a personal allowance of \$3,000 and personal contributions to accepted Pension or Provident Fund schemes are deductible from the assessable income. In addition, there are tax free allowances, subject to a maximum of one-third of the assessable income, including a wife allowance of \$2,000, and child allowance up to a total of \$2,100.

The rate of Business Profits Tax was similarly revised in December, 1962, from 5 per cent to 10 per cent and that of Corporation Profits Tax from 30 per cent to 40 per cent, both to take effect from 1st January, 1963. These increases in direct taxation were made in pursuance of Government's policy to

reduce its dependence upon indirect taxes and gradually to change the emphasis of the tax structure from taxes on production to those on income.

With a few exceptions, all types of businesses are liable to payment of Trades Licence fees at varying rates with a minimum of \$24 and a maximum of \$360 per annum. The fees paid are deductible as business expenses for the purpose of assessing Business or Corporation Profits Tax.

Miscellaneous Licences and Fees

These includes:—

- Rubber Dealers and Exporters Licences
- Pilotage Fees
- Fees for Registration of Deeds
- Bankruptcy Fees
- Poisons Licences
- Fees for importation of Animals
- Auctioneers and Valuers Licences
- Sulphurous and Arsenical Ores Licences
- Pepper Dealers and Exporters Licences
- Printing Presses Licences
- Church and Civil Marriage Licences
- Bills of Sales

Customary Tax

In former days the Rajahs of Sarawak instituted a system of head and door tax paid by Native peoples. These have now almost entirely been replaced by rates levied by local authorities.

Entertainment Duty

A duty is levied on all payments for admission to entertainments. The duty on "live shows" is one-half of that which is payable for other entertainments.

Estate Duty

Estate Duty is charged upon all estates above \$1,000. Rates are as follows:—

Where the value of the estate exceeds

\$ 1,000 but does not exceed	\$ 3,000	1	per cent
\$ 3,000 „ „ „ „	\$ 5,000	1½	„ „
\$ 5,000 „ „ „ „	\$ 7,500	2½	„ „
\$ 7,500 „ „ „ „	\$ 10,000	3½	„ „
\$ 10,000 „ „ „ „	\$ 20,000	5	„ „
\$ 20,000 „ „ „ „	\$ 40,000	7½	„ „
\$ 40,000 „ „ „ „	\$ 70,000	10	„ „
\$ 70,000 „ „ „ „	\$ 100,000	15	„ „
\$ 100,000 „ „ „ „	\$ 150,000	21	„ „
\$ 150,000 „ „ „ „	\$ 200,000	22	„ „
\$ 200,000 „ „ „ „	\$ 250,000	23	„ „
\$ 250,000 „ „ „ „	\$ 300,000	24	„ „
\$ 300,000 „ „ „ „	\$ 350,000	25	„ „
\$ 350,000 „ „ „ „	\$ 400,000	26	„ „
\$ 400,000 „ „ „ „	\$ 450,000	27	„ „
\$ 450,000 „ „ „ „	\$ 500,000	28	„ „
\$ 500,000 „ „ „ „	\$ 600,000	29	„ „
\$ 600,000 „ „ „ „	\$ 700,000	30	„ „
\$ 700,000 „ „ „ „	\$ 800,000	31	„ „
\$ 800,000 „ „ „ „	\$ 900,000	32	„ „
\$ 900,000 „ „ „ „	\$1,000,000	33	„ „
\$1,000,000 „ „ „ „	\$1,500,000	34	„ „
\$1,500,000 „ „ „ „	\$2,000,000	35	„ „
\$2,000,000 „ „ „ „	\$2,500,000	36	„ „
\$2,500,000 „ „ „ „	\$3,000,000	37	„ „
\$3,000,000 „ „ „ „	\$4,000,000	38	„ „
\$4,000,000 „ „ „ „	\$5,000,000	39	„ „
Over \$5,000,000		40	„ „

Sarawak Development Finance Corporation

The Sarawak Development Finance Corporation was established in July, 1958, under the Development Finance Corporation Ordinance (*Cap. 35*) of Sarawak.

The Corporation is an independent statutory body with its own sources of revenue, but it has the general backing of the Government of Sarawak, and the Governor in Council has power

to give directions of a general character as to policy to be followed in matters of public interest. Government has made available to it a sum of \$1,000,000 free of interest for a period of five years, as initial working capital. It is managed by a Board consisting of a minority of Government officials and a majority of non-officials with local experience of commerce, industry and agriculture. The Chairman is the Financial Secretary.

The object of the Corporation is to promote the economic development of Sarawak by stimulating and facilitating private investment in Sarawak and it is empowered to provide or facilitate the grant of financial credits for agriculture, industry, rural and urban housing and buildings, and utilities of both a public and private nature. As a matter of policy, the Corporation will in future concentrate on the agricultural sector while Borneo Development Corporation Limited will direct its attention primarily to the industrial sector.

The Sarawak Development Finance Corporation continued during 1962 to finance the Pepper Storage and Finance Scheme which was first introduced in September, 1959. The Scheme achieved some measure of success in facilitating the gradual marketing of pepper.

A factory scheme at the Padungan Industrial Estate, Kuching, was a joint venture of the Corporation and Borneo Development Corporation Limited. The scheme provides advances for the construction of factories on the estate. By the end of the year four factory buildings had been completed, and eight more factories were about to be built.

IV

CURRENCY AND FINANCIAL INSTITUTIONS

Currency

SINCE the conclusion of the 1939/45 war, Malayan currency has been issued in Sarawak. In the first instance this was to provide a uniform currency for the then three British Borneo territories during the Military Administration. It was also expected that the Japanese would have withdrawn most of the local currency and replaced this with their own. In effect, surprising amounts of local currency re-appeared in the earlier days after liberation. It was intended that the re-introduction of Sarawak notes should begin when the Civil Government took over but the cession of the State to the Crown in July, 1946, led to a continuation of the Malayan issue. Up to 31st December, 1952, Sarawak and British North Borneo (Chartered Company) currencies were also legal tender. So far as is known there was no North Borneo (Chartered Company) currency in circulation in Sarawak. Sarawak currency, though no longer legal tender, may still be exchanged as an act of grace into Malayan currency at the Sarawak Government Treasury, Kuching. The present currency in circulation, therefore, consists of notes and coin issued by the Board of Commissioners of Currency, Malaya and British Borneo, stocks for Sarawak being held in the Sarawak Government Treasury, Kuching. The par value of the Malayan dollar is two shillings and four pence sterling. At the end of 1947 it was estimated that the total amount of currency in circulation, both Malayan and Sarawak, was \$15,000,000. This has increased to the figure of \$67,874,713 as at 31st December, 1962.

Financial Institutions

Government policy in Sarawak has, since 1946, been actively directed towards encouraging the establishment of sound financial institutions functioning as financial intermediaries in mobilising domestic savings and in providing financial credits not only for commercial activities but also for the economic development of

the country. As Sarawak has a small population of three quarters of a million in a relatively large land area of about 48,000 square miles and has relatively undeveloped communications, there are certain difficulties in the early stages of mobilising domestic savings for economic development, e.g., the habit of keeping savings either in the form of "hoarded gold" or in cash "under the bed" and the tendency to excessive expenditure on weddings and other types of conspicuous consumption. The habit of hoarding stems from lack of confidence because of the absence of institutions where savings can be safely placed and easily withdrawn. To develop the institutions necessary to mobilise domestic savings for economic development, Government's measures have been (a) to build up confidence in such institutions by enacting legislation for the control of banks, (b) to ensure accessibility of the institutions both for depositing and withdrawing savings without involving long journeys by the setting up of Post Office Savings Bank branches at nearly all post offices throughout the country and (c) to maintain monetary stability by fiscal measures, e.g., the taxation structure is designed to curb inflation at times of high prices for primary products and to provide relief at times of low prices for those products.

Banking

At the end of the war the position of the Chinese banks was precarious. Their liquid and floating assets had been largely wasted and their Sarawak currency cash balances and bank credit with the Yokohama Specie Bank had been exchanged for "banana" money issued by the Japanese. In order to provide traders with facilities to transact overseas business, Government granted local credit to the Chinese banks against adequate security over buildings and rubber estates. By 1948 the Chartered Bank, Kuching, was restored to the status of a full agency directly under the control of its head office in London, and the Overseas Chinese Banking Corporation opened their first office in Sarawak in Kuching at the beginning of that year. However, up to 1949 banking facilities were available in only two towns, namely Kuching and Sibui. Since then facilities have been provided at Miri (1950), Sarikei (1957) and Simanggang (1959). More towns will no doubt be served as economic progress and public demand require.

At present the following banks operate in the territory :—

The Chartered Bank	at Kuching, Sibü, Miri Sarikei and Simanggang
The Hongkong and Shanghai Banking Corporation	at Kuching and Sibü
The Overseas Chinese Banking Corporation	at Kuching
Bian Chiang Bank	at Kuching
Kwong Lee Bank	at Kuching and Sibü
Wah Tat Bank	at Sibü
Hock Hua Bank	at Kuching and Sibü
Overseas Union Bank Limited	at Kuching.

New banking legislation was introduced at the end of 1962 and came into operation on the 1st January, 1963.

Post Office Savings Bank

The number of depositors in the Post Office Savings Bank rose from 2,258 at the end of 1947 to 9,970 at the end of 1962 and the amount to their credit from \$727,896 in 1947 to \$3,868,891 in 1962. During the year 1962 withdrawals exceeded deposits by \$100,005.

The Post Office Savings Bank has branches at nearly all post offices throughout the country. For the more remote areas where no branches of commercial banks have been established, it is the only institution for the collection of savings.

Co-operative Central Bank

The Co-operative Central Bank was established in 1953 to serve the various Co-operative Societies which are also members of the Bank. The member societies, other than depositing their savings in the Bank, have so far made very little demand for credit. However, it is hoped that steps recently taken will facilitate a change of attitude on the part of the member societies and of the Bank itself, which may lead to a greater volume of loan finance by the Bank for agricultural production through rural Co-operative Societies.

Other Financial Institutions

Borneo Housing Development Limited is a building society established in December, 1958, with capital subscribed by the

Commonwealth Development Corporation and by the Sarawak and North Borneo Governments. It also mobilised savings in the form of loans from insurance companies and the like, funds which might otherwise not be utilised in Sarawak. At the end of 1962, the mortgaged asset of the Corporation was provisionally valued at \$13.4 million of which \$9.9 million was held in Sarawak and \$3.5 million held in North Borneo.

Borneo Development Corporation Limited is a wholly owned subsidiary of the Commonwealth Development Corporation but negotiations have been concluded during 1962 for the Sarawak Development Finance Corporation and the North Borneo Government each to invest \$ $\frac{1}{4}$ million share capital in it. Participation by private investors will also be sought. Sarawak Government assistance to the Corporation includes exempting it from profits tax chargeable under the Inland Revenue Ordinance. It is considered that these measures will pave the way for wider activity in the industrial and commercial fields. The Corporation's activities have, so far, been confined to the establishment of an industrial estate at Kuching in association with the Sarawak Development Finance Corporation. The impending invitation to private investors to participate should help to foster development of a capital market and it is hoped that as the Corporation develops it will not only fulfil its twofold financial role of mobilising capital and acting as a source of capital for industrial development but will also develop its entrepreneurial role and its technical assistance in the industrial and commercial fields.

The Sarawak Development Finance Corporation is a statutory body established by Government operating on an interest-free loan of \$1 million made available by Government and on short-term finance from the commercial banks. Details of its functions and activities are given in Chapter III of this Report.

V

COMMERCE

SARAWAK is essentially an agricultural country producing and exporting primary products and it is largely from the export of such produce that her national income is derived. In exchange she imports most foodstuffs and almost all other consumer and capital goods. Some processing of local products is carried out before export and industrial activity is generally on a modest scale.

Three major exports—rubber, pepper and timber—constitute the backbone of the economy and their importance is reflected in the high proportion of export proceeds that they earn in any one year. In 1962 about 76 per cent of the total export earnings of the country excluding the re-export of petroleum, or \$137,319,363, have been derived from the export of these commodities.

This heavy dependence on primary exports means that the economy is very vulnerable to fluctuations in commodity prices in the world markets. This instability has not only aggravated the problems of economic development of Sarawak but also focussed attention on the need to diversify the economy. Encouraging a measure of industrialization, and exploring and developing the mineral potentiality of the country are some of the attempts that have been and are being made with this aim in view.

The almost complete dependence of the economy on a few export industries also largely determines the general pattern of external trade of the country. During the year under review there was a slight fall in the value of total trade and the value of total imports, but the total value of exports enjoyed a slight improvement compared with the previous year in spite of somewhat depressed world markets.

During 1962 manufacturing industries continued to develop slowly and surely particularly those using local resources. The creation of the Free Trade Area with North Borneo during the year has given some benefit to local industries and it is hoped that the establishment of the Federation of Malaysia in 1963 would give a further fillip to local manufacturing activities as well as to intra-Malaysian trade.

Exports

Exports were valued at \$407,196,277 for 1962 compared with \$397,234,369 for 1961. The major items were:—

SARAWAK'S EXPORTS

	1961 \$	1962 \$
Petroleum (crude)	107,180,879	106,740,960
Petroleum (refined)	114,675,431	119,456,032
Rubber	83,256,933	72,597,147
Timber	41,597,302	40,835,364
Pepper	28,645,535	23,886,852
Illipe Nuts	14,101	16,011,630
Bauxite	5,545,854	4,076,863
Sago Flour	3,298,398	4,169,921
Jelutong	1,750,866	1,761,978
Sundries (including re-exports)	11,269,070	17,659,530

Crude oil won in the State of Brunei is piped to Sarawak, part of the crude oil being re-exported without processing. Most of the remainder is refined at the Lutong Refinery and exported. Oil is also produced in Miri in Sarawak and in 1962 a quantity worth \$2,526,204 was produced and exported. The total value of 1962 exports, exclusive of crude oil re-exports and exports of refined petroleum products but including the value of Miri oil production, was \$183,525,489.

Rubber. 43,806.25 tons of rubber valued at \$72,597,147 were exported in 1962 as against 46,915.55 tons valued at \$83,256,933 exported in the previous year. The average price of rubber declined from \$1,775 per ton in 1961 to \$1,657 per ton in 1962. The following table shows the vagaries of the rubber exports between 1946 and 1962:—

RUBBER EXPORTS, 1946-1962

<i>Year</i>	<i>Tons</i>	<i>Value per ton \$</i>	<i>Total Value \$</i>	<i>Percentage of Total Exports (excluding Petroleum)</i>
1946	23,521	821	19,316,549	82.6
1947	35,550	734	26,084,589	50.3
1948	39,879	866	34,532,924	58.0
1949	38,902	811	31,545,400	60.0
1950	55,475	2,054	113,941,617	79.0
1951	42,521	3,736	158,865,402	77.4
1952	31,471	2,071	65,182,029	49.6
1953	23,957	1,320	31,616,358	25.3
1954	23,187	1,341	31,087,822	25.1
1955	39,411	1,998	78,744,880	53.3
1956	41,234	1,665	68,635,041	52.7
1957	41,000	1,788	73,301,798	59.8
1958	38,542	1,568	60,430,509	52.0
1959	43,836	2,165	94,898,236	52.1
1960	49,961	2,451	122,440,482	61.1
1961	46,916	1,775	83,256,933	47.5
1962	43,806	1,657	72,597,147	40.1

Timber. Because timber has been enjoying a fairly steady world market, exports have become more and more important to the economy. In 1962, 515,051 tons of timber valued at \$40,835,364 were exported against 415,874 tons of timber valued \$41,597,302, the comparative figures for 1961. Of the total timber exported in 1962, 385,764 tons were round timber valued at \$23,777,280 and 129,287 tons were sawn timber valued at \$17,058,084. The tables below show the expansion and the composition of the timber exports between 1946 and 1962:—

TIMBER EXPORTS, 1946-1962

<i>Year</i>	<i>Tons</i>	<i>Value per ton \$</i>	<i>Total Value \$</i>	<i>Percentage of Total Exports (excluding Petroleum)</i>
1946	n.a.	n.a.	25,774	0.2
1947	n.a.	n.a.	233,508	0.5
1948	21,128	55	1,158,335	2.0
1949	36,607	55	2,018,896	3.8
1950	44,133	65	2,866,725	2.0
1951	54,528	87	4,727,834	2.3
1952	98,309	91	8,925,910	6.8
1953	155,694	89	13,861,976	11.1
1954	163,459	85	13,879,952	11.2
1955	210,043	105	21,962,081	14.9
1956	197,089	97	19,064,435	14.6
1957	201,617	97	19,558,560	16.0
1958	194,954	100	19,568,542	16.8
1959	317,244	98	31,040,471	17.0
1960	361,663	121	43,607,088	21.8
1961	415,874	100	41,597,302	23.7
1962	515,051	79	40,835,364	22.6

n.a. = not available.

ROUND AND SAWN TIMBER EXPORTS, 1946-1962

Year	Value per ton		Percentage Share of Round and Sawn	
	Round \$	Sawn \$	Timber to Total Tonnage Round	Sawn
1946	n.a.	n.a.	n.a.	n.a.
1947	n.a.	n.a.	n.a.	n.a.
1948	35	79	54.4	45.6
1949	39	94	70.9	29.1
1950	47	90	60.1	39.9
1951	70	128	71.8	28.2
1952	69	147	71.9	28.1
1953	59	155	68.5	31.5
1954	47	122	49.4	50.6
1955	51	141	40.5	59.5
1956	43	134	41.0	59.0
1957	39	137	40.6	59.4
1958	44	146	44.6	55.4
1959	61	154	60.7	39.3
1960	66	185	54.1	45.9
1961	66	169	67.0	33.0
1962	62	132	74.9	25.1

n.a. = not available.

White Pepper. During the year under review exports of white pepper totalled 7,083.99 tons value at \$16,100,259 compared with 7,052.32 tons valued at \$19,634,680 exported in 1961. The average price per ton decreased from \$2,784 in 1961 to \$2,273 in 1962. The fluctuations of quantities exported and the average prices per ton during the 1946-1962 period are indicated in the following table:—

WHITE PEPPER EXPORTS, 1946-1962

Year	Tons	Value	Total Value	Percentage of Total Pepper Exports
		per ton \$	\$	
1946	601	1,376	826,881	96.2
1947	1,460	2,136	3,118,384	97.0
1948	425	2,635	1,119,935	96.6
1949	313	6,350	1,987,560	98.1
1950	267	14,973	3,997,749	97.3
1951	1,160	15,123	17,542,746	97.9
1952	1,997	8,946	17,866,003	54.1
1953	1,391	6,732	9,364,407	18.9
1954	2,715	3,510	9,529,122	21.8
1955	2,334	2,537	5,922,457	18.7
1956	2,760	1,630	4,498,486	18.3
1957	2,298	1,685	3,872,794	22.5
1958	5,137	1,944	9,986,059	65.9
1959	6,562	2,380	15,616,475	86.3
1960	3,394	4,473	15,180,009	88.3
1961	7,052	2,784	19,634,680	68.5
1962	7,084	2,273	16,100,259	67.4

Black Pepper. Exports of black pepper in 1962 amounted to 4,497.26 tons valued at \$7,786,593, whereas in the previous year

3,902.44 tons of black pepper valued at \$9,010,855 were exported. The average price per ton declined from \$2,309 in 1961 to \$1,732 in 1962. Violent fluctuations of black pepper exports between 1946 and 1962 can be seen from the following table:—

BLACK PEPPER EXPORTS, 1946-1962

<i>Year</i>	<i>Tons</i>	<i>Value per ton \$</i>	<i>Total Value \$</i>	<i>Percentage Share of Total Pepper Exports</i>
1946	53	623	33,020	3.8
1947	107	889	95,113	3.0
1948	18	2,184	39,307	3.4
1949	7	5,491	38,437	1.9
1950	15	7,294	109,417	2.7
1951	49	7,805	382,438	2.1
1952	2,016	7,523	15,165,832	45.9
1953	7,606	5,269	40,078,679	81.1
1954	12,750	2,681	34,177,391	78.2
1955	13,963	1,841	25,702,343	81.3
1956	17,058	1,179	20,111,645	81.7
1957	11,442	1,168	13,359,187	77.5
1958	4,589	1,124	5,157,561	34.1
1959	1,788	1,388	2,481,345	13.7
1960	705	2,866	2,020,197	11.8
1961	3,902	2,309	9,010,855	31.5
1962	4,497	1,732	7,786,593	32.6

Illipe Nuts. In 1962, 19,882.92 tons of illipe nuts valued at \$16,011,630 were exported, the comparative figures for 1961 being 15.12 tons and \$14,101. That illipe nut is a highly irregular and unpredictable export crop is amply reflected in the export figures set out in the following table:—

ILLIPE NUT EXPORTS, 1946-1962

<i>Year</i>	<i>Tons</i>	<i>Value per ton \$</i>	<i>Total Value \$</i>	<i>Percentage of Total Exports (excluding Petroleum)</i>
1946	—	—	—	—
1947	7,658	248	1,897,248	3.7
1948	22	230	5,061	n.s.
1949	752	592	444,970	0.9
1950	—	—	—	—
1951	22	421	9,272	n.s.
1952	30	516	15,465	n.s.
1953	2,807	763	2,141,873	1.7
1954	16,047	787	12,631,295	10.2
1955	1,458	599	873,213	0.6
1956	158	584	92,198	0.1
1957	—	—	—	—
1958	6,205	1,147	7,119,738	6.1
1959	22,006	908	19,976,395	11.0
1960	—	—	—	—
1961	15	940	14,101	n.s.
1962	19,883	805	16,011,630	8.9

n.s. = not significant, less than 0.05%.

Bauxite. Exports of bauxite in 1962 reached 198,698 tons valued at \$4,076,863 compared with 256,442 tons valued at \$5,545,854 exported in 1961. Initial export took place in 1958 and the following table gives details of the tonnage and value of bauxite exported as from 1958:—

BAUXITE EXPORTS, 1958-1962

Year	Tons	Value per ton \$	Total Value \$	Percentage of Total Exports (excluding Petroleum)
1958	99,930	18	1,836,780	1.3
1959	202,925	19	3,842,537	2.1
1960	260,120	19	4,995,202	2.5
1961	256,442	22	5,545,854	3.2
1962	198,698	21	4,076,863	2.3

Sago Flour. 31,621.32 tons of sago flour valued at \$4,169,921 were exported in 1962 against 24,455.30 tons valued at \$3,298,398 exported in 1961. The depressed state of the sago industry is clearly reflected in the figures given in the table below:—

SAGO FLOUR EXPORTS, 1946-1962

Year	Tons	Value per ton \$	Total Value \$	Percentage of Total Exports (excluding Petroleum)
1946	5,047	217	1,097,664	4.7
1947	39,221	270	10,598,863	20.4
1948	49,751	224	11,124,325	18.7
1949	27,082	174	4,699,629	9.0
1950	38,243	243	9,277,842	6.4
1951	23,945	334	7,988,232	3.9
1952	22,620	263	5,954,774	4.5
1953	16,073	272	4,371,384	3.5
1954	12,543	226	2,828,635	2.3
1955	9,871	203	2,006,735	1.4
1956	12,576	193	2,422,702	1.9
1957	12,780	163	2,088,559	1.7
1958	16,508	142	2,345,107	2.0
1959	17,780	135	2,399,769	1.3
1960	19,688	142	2,788,335	1.4
1961	24,455	135	3,298,398	1.9
1962	31,621	132	4,169,921	2.3

Jelutong. In 1962 exports of jelutong totalled 608.04 tons valued at \$1,761,978 compared with 838.21 tons valued at \$1,750,866 exported in 1961. The decreasing importance of

jelutong exports is evident from the following table:—

JELUTONG EXPORTS, 1946-1962

Year	Tons	Value per ton \$	Total Value \$	Percentage of Total Exports (excluding Petroleum)
1946	199	526	104,603	0.5
1947	3,000	902	2,705,857	5.3
1948	2,401	928	2,228,479	3.8
1949	1,266	934	1,182,665	2.3
1950	1,552	1,157	1,795,932	1.2
1951	1,094	2,112	2,310,331	1.1
1952	1,066	1,977	2,107,951	1.6
1953	970	2,192	2,126,562	1.7
1954	1,148	2,727	3,130,801	2.5
1955	451	2,031	915,854	0.6
1956	591	2,641	1,560,825	1.2
1957	370	2,992	1,106,967	0.9
1958	482	3,389	1,633,611	1.4
1959	397	3,922	1,557,072	0.9
1960	263	3,045	800,791	0.4
1961	838	2,089	1,750,866	1.0
1962	608	2,898	1,761,978	1.0

Copra. No export of copra has been recorded in 1962 as in 1960 and 1961. Since 1960 not only was the entire production of copra absorbed by local vegetable oil factories but also substantial quantities of copra have been imported for processing by these factories. The following table shows the exports of copra between 1946 and 1962:—

COPRA EXPORTS, 1946-1962

Year	Tons	Value per ton \$	Total Value \$	Percentage of Total Exports (excluding Petroleum)
1946	18	187	3,369	n.s.
1947	168	300	50,448	0.1
1948	1,719	605	1,040,412	1.8
1949	3,418	491	1,676,702	3.2
1950	4,230	627	2,651,451	1.8
1951	3,864	687	2,654,196	1.3
1952	2,612	424	1,106,541	0.8
1953	2,635	484	1,275,837	1.0
1954	2,994	428	1,281,778	1.0
1955	1,575	320	504,352	0.3
1956	476	329	156,540	0.1
1957	—	—	—	—
1958	117	600	70,179	0.1
1959	84	651	54,694	n.s.
1960	—	—	—	—
1961	—	—	—	—
1962	—	—	—	—

n.s. = not significant, less than 0.05%.

Imports

1962 imports were valued at \$400,645,018 compared with \$411,740,092 in 1961. Excluding crude oil valued at \$194,492,785 they were \$206,152,233 in 1962. There was a decrease of \$15,674,649 compared with 1961.

The following were details of imports:—

<i>Commodities</i>	<i>1961</i> \$	<i>1962</i> \$
Food	45,636,099	46,193,939
Rice	20,541,802	22,067,642
Beverages, alcoholic	2,838,631	2,774,185
Beverages, non-alcoholic	396,031	395,338
Cigarettes and tobacco	6,246,889	6,363,549
Crude materials, inedible, except fuels	8,179,151	9,208,491
Crude oil	189,912,236	194,492,785
Petroleum products	11,746,877	12,665,490
Animal and vegetable oils and fats	366,695	515,202
Chemicals	15,783,856	14,600,181
Manufactured goods, classified chiefly by materials	31,971,345	32,457,055
Machinery and transport equipment	28,582,291	33,928,759
Miscellaneous manufactured goods	14,439,017	14,896,576
Miscellaneous transactions n.e.s.	35,098,198	10,085,826

Intra-Bornean Trade. Since the establishment of the Borneo Free Trade Area in January, 1962, trade with North Borneo has doubled. In 1962 imports from North Borneo totalled \$1,148,733 and exports \$2,411,091 the comparative 1961 figures being \$577,845 and \$1,223,837 respectively:—

SARAWAK TRADE WITH NORTH BORNEO, 1948-1962

<i>Year</i>	<i>Imports</i> \$	<i>Exports</i> \$	<i>Trade Total</i> \$
1948	914,238	882,580	1,796,818
1949	689,346	583,698	1,273,044
1950	423,409	369,138	792,547
1951	1,651,027	1,244,711	2,895,738
1952	1,603,623	1,856,144	3,459,767
1953	1,352,938	1,270,022	2,622,960
1954	2,546,175	1,828,977	4,375,152
1955	597,482	1,754,534	2,352,016
1956	393,674	1,851,855	2,245,529
1957	422,766	673,003	1,095,769
1958	377,406	454,321	831,727
1959	391,561	552,244	943,805
1960	474,357	843,314	1,317,671
1961	577,845	1,223,837	1,801,682
1962	1,148,733	2,411,091	3,559,824

Intra-Malaysian Trade. The pattern of Sarawak trade with other Malaysian countries during the last nine years is shown in the following tables (1946-1947 figures being not available):—

INTRA-MALAYSIAN TRADE, 1948-1962
(MILLION \$)

Year	Malaya		Singapore		Brunei		North Borneo	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
1948	n.a.	n.a.	35.5	83.1	49.4	1.2	0.9	0.9
1949	n.a.	n.a.	36.7	73.6	61.1	2.4	0.7	0.6
1950	n.a.	n.a.	67.3	174.8	200.3	2.4	0.4	0.4
1951	n.a.	n.a.	89.9	246.9	264.3	3.8	1.7	1.2
1952	n.a.	n.a.	77.4	181.5	275.2	8.9	1.6	1.9
1953	n.a.	n.a.	78.4	173.5	278.4	13.7	1.4	1.3
1954	0.5	0.02	85.1	158.8	268.0	9.0	2.5	1.8
1955	1.7	0.03	20.3	202.2	292.8	4.8	0.6	1.8
1956	2.1	0.05	19.9	210.6	314.8	6.3	0.4	1.9
1957	1.8	0.02	18.4	206.4	320.4	5.1	0.4	0.7
1958	2.0	0.02	17.1	173.0	301.9	3.1	0.4	0.5
1959	1.9	0.1	22.3	209.5	295.1	5.1	0.4	0.6
1960	2.4	0.02	24.3	199.7	241.0	2.5	0.5	0.8
1961	3.4	0.05	27.1	155.3	191.4	4.2	0.6	1.2
1962	3.9	0.1	27.6	138.4	195.5	3.8	1.1	2.4

n.a. = not available.

TOTAL MALAYSIAN TRADE, 1948-1962

Year	Imports \$	Exports \$	Malaysian Total Trade \$	Percentage of Total Trade \$
1948	85,854,298	85,160,664	171,041,962	63.34
1949	98,546,080	76,542,731	175,088,811	58.83
1950	268,051,445	177,566,916	445,618,361	67.12
1951	355,834,473	251,958,605	607,793,078	68.12
1952	354,128,615	192,307,280	546,435,895	66.52
1953	358,147,102	188,522,593	546,669,695	66.70
1954	356,188,343	169,630,888	525,819,231	63.83
1955	315,431,668	208,774,582	524,206,250	56.99
1956	337,268,414	218,839,366	556,107,780	58.48
1957	340,902,419	212,096,589	552,999,008	57.43
1958	321,429,504	176,642,818	498,072,322	55.49
1959	319,708,740	215,209,617	534,918,357	54.12
1960	268,245,737	203,078,439	471,324,176	50.51
1961	222,586,973	160,767,762	383,354,735	47.39
1962	228,098,987	144,721,070	372,820,057	46.15

Cargo Tonnage

The tonnage discharged and loaded, including oil in bulk, was 5,393,774 compared with 5,154,595 for 1961.

CARGOES DISCHARGED AND LOADED AT SARAWAK'S PORTS, 1962

<i>Ports</i>	<i>Discharged</i>		<i>Loaded</i>	
	<i>Cargo (Tons)</i>	<i>Oil in bulk (Tons)</i>	<i>Cargo (Tons)</i>	<i>Oil in bulk (Tons)</i>
Kuching	157,157	39,726	77,463	—
Other 1st & 2nd Division ports	694	—	263,426	—
Sibu	86,790	11,531	59,235	—
Sarikei	7,725	215	2,700	—
Binatang	3,780	283	2,309	—
Tanjong Mani	1,418	100	404,087	—
Miri	18,376	—	22,212	4,166,555
Bintulu	225	—	2,067	—
Baram	1,173	—	2,357	—
Limbang	2,747	828	11,241	—
Lawas	2,195	—	19,936	—
Sundar	447	67	9,752	—
TOTAL	297,684	52,750	876,785	4,166,555

Balance of Trade

The total volume of trade, including the value of crude oil imports from Brunei, decreased by \$1,133,166 to \$807,841,295 from the 1961 total of \$808,974,461. The general trend of the total volume of trade as shown below has been increasing over the period 1953-1960 and thereafter decreasing, if oil imports in crude form from Brunei and oil re-exports are taken into consideration. The visible trade balance for the country has been favourable for the years shown below (except 1961):—

TOTAL TRADE, 1951-1962

<i>Year</i>	<i>Total Exports</i>	<i>Total Imports</i>	<i>Total Trade</i>	<i>Visible Balance of Trade</i>
	\$	\$	\$	\$
1951	508,349,436	383,745,457	892,194,893	+ 124,603,979
1952	438,563,317	382,945,953	821,509,270	+ 55,617,364
1953	424,728,257	394,912,338	819,640,595	+ 29,815,919
1954	425,969,557	397,826,075	823,795,632	+ 28,143,482
1955	477,460,040	442,347,927	919,807,967	+ 35,112,113
1956	487,000,860	463,886,635	950,887,495	+ 23,114,225
1957	499,534,619	463,429,459	962,964,078	+ 36,105,160
1958	463,736,226	433,786,897	897,523,123	+ 29,949,329
1959	533,390,873	455,065,641	988,456,514	+ 78,325,232
1960	488,290,454	444,922,798	933,213,252	+ 43,367,656
1961	397,234,369	411,740,092	808,974,461	— 14,505,723
1962	407,196,277	400,645,018	807,841,295	+ 6,551,259

Disregarding the imports of crude oil from Brunei and the exports and re-exports of both crude and refined petroleum products, the total volume of trade for 1962 amounted to \$389,677,722, a decrease of \$10,241,129 over the figure for 1961 which was \$399,918,851. The visible trade balance was unfavourable to the tune of \$22,626,744.

The following table shows the total exports and imports for the period 1951-1962 together with the trade balances:—

TOTAL TRADE, 1951-1962

<i>Year</i>	<i>Total Exports*</i>	<i>Total Imports†</i>	<i>Total Trade</i>	<i>Visible Balance of Trade</i>
	\$	\$	\$	\$
1951	212,193,376	120,931,843	333,125,219	+91,261,533
1952	140,196,527	112,261,699	252,458,226	+27,934,828
1953	134,237,277	130,951,594	265,188,871	+ 3,285,683
1954	136,013,176	135,479,268	271,492,444	+ 533,908
1955	159,797,145	148,891,946	308,689,091	+10,905,199
1956	134,054,507	150,147,126	284,201,633	—16,092,619
1957	126,202,648	143,858,961	270,061,609	—17,656,313
1958	119,399,005	132,600,108	251,996,360	—13,201,103
1959	182,208,114	160,872,881	343,080,995	+21,335,233
1960	203,035,575	204,856,926	407,892,501	— 1,821,351
1961	178,091,969	221,826,882	399,918,851	—43,734,913
1962	183,525,489	206,152,233	389,677,722	—22,626,744

* Exports include oil produced from the Miri oil-field which in 1962 was valued \$2,526,204 but exclude oil re-exports, that is, oil produced in Brunei but piped to be refined at the Lutong refinery in Sarawak.

† Imports exclude petroleum imports from Brunei.

Customs Revenue

\$37,524,630 in Customs revenue were collected in 1962 against \$37,082,860 for 1961. Import and Export duties were \$24,895,185 and \$12,539,445 respectively, the comparative figures of 1961 being \$24,065,111 and \$13,017,749.

Excise

Excise duties totalled \$1,344,160 in 1962 compared with \$1,682,143 in 1961. Sources of these duties are provided by distilleries, a cigarette factory, petroleum products, rubber shoes and a match factory.

The following table shows the composition of Customs and Excise revenues between 1946 and 1962:—

CUSTOMS AND EXCISE REVENUE, 1946-1962

<i>Year</i>	<i>Imports</i> %	<i>Exports</i> %	<i>Excise</i> %	<i>Total Revenue</i> \$
1946	35.68	63.62	0.71	3,788,801
1947	41.60	57.82	0.38	8,643,304
1948	49.70	49.26	1.05	10,787,470
1949	60.57	38.33	1.10	9,707,046
1950	37.34	62.15	0.51	23,756,992
1951	33.98	63.70	2.32	36,309,518
1952	43.64	53.81	2.55	23,812,005
1953	51.02	46.76	2.22	23,096,897
1954	52.62	44.94	2.44	22,734,255
1955	47.23	49.94	2.83	28,582,293
1956	52.02	44.75	3.24	26,873,118
1957	58.06	39.17	2.77	25,943,520
1958	62.17	34.52	3.31	26,863,625
1959	52.59	44.12	3.29	38,058,996
1960	53.99	42.45	3.57	46,778,452
1961	62.08	33.58	4.34	38,765,002
1962	64.20	32.34	3.47	38,778,790

That Customs and Excise duties have become less and less important as the source of the ordinary revenue of the country is indicated by the following table:—

CUSTOMS AND EXCISE REVENUE, 1946-1962

<i>Year</i>	<i>Customs and Excise</i> <i>Revenue</i> \$	<i>Percentage of Total</i> <i>Ordinary Revenue*</i>
1946	3,788,801	71.82
1947	8,643,304	71.34
1948	10,787,470	74.65
1949	9,707,046	68.67
1950	23,756,992	80.88
1951	36,309,518	83.58
1952	23,812,005	45.32
1953	23,096,897	54.07
1954	22,734,255	55.66
1955	28,582,293	58.61
1956	26,873,118	53.92
1957	25,943,520	52.67
1958	26,863,625	46.62
1959	38,058,996	55.10
1960	46,778,452	56.09
1961	38,765,002	47.58
1962	38,778,790	49.68†

* Excludes Municipal revenue.

† Based on *estimated* revenue.

Many new roads are being built in Sarawak. The photograph shows the Sarikei/Saratok Road where it passes over Bukit Sebangkoi near the border between the Third and Second Divisions.

(S.I.S.)

Kuching Airport has been substantially extended and improved and is now capable of accepting aircraft of almost any size.

(S.I.S.)

Large tankers are now able to berth at Sungei Biawak near Pending which greatly facilitates delivery of petrol in bulk.

(S.I.S.)

Aerial view over Lawas showing the airfield which has been considerably extended.

(S.I.S.)

Timber extraction work in the Sadong area of the First Division. Timber remains one of Sarawak's most important exports.

(S.I.S.)

Sarawak is now linked by a direct shipping service maintained by the City Line with Europe. The first such vessel to reach Kuching is shown coming alongside the wharf at Tanah Puteh.

(S.I.S.)

Great attention is being paid to the instruction of smallholders in improved systems of rubber processing.

(S.I.S.)

An aspect of improved padi planting in Sarawak which is receiving attention is the instruction of Sarawak farmers in the techniques of ploughing with a water buffalo.

(S.I.S.)



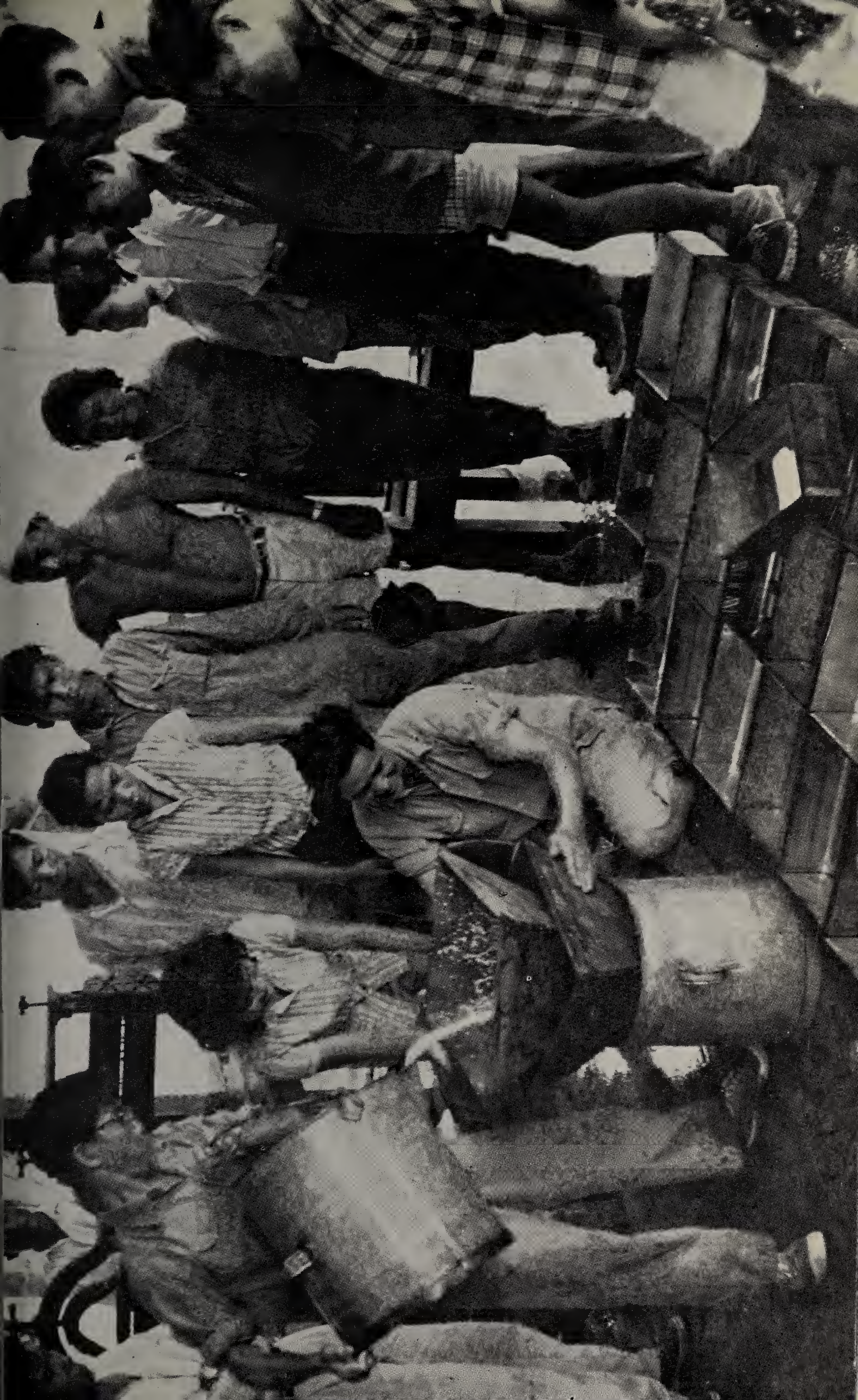


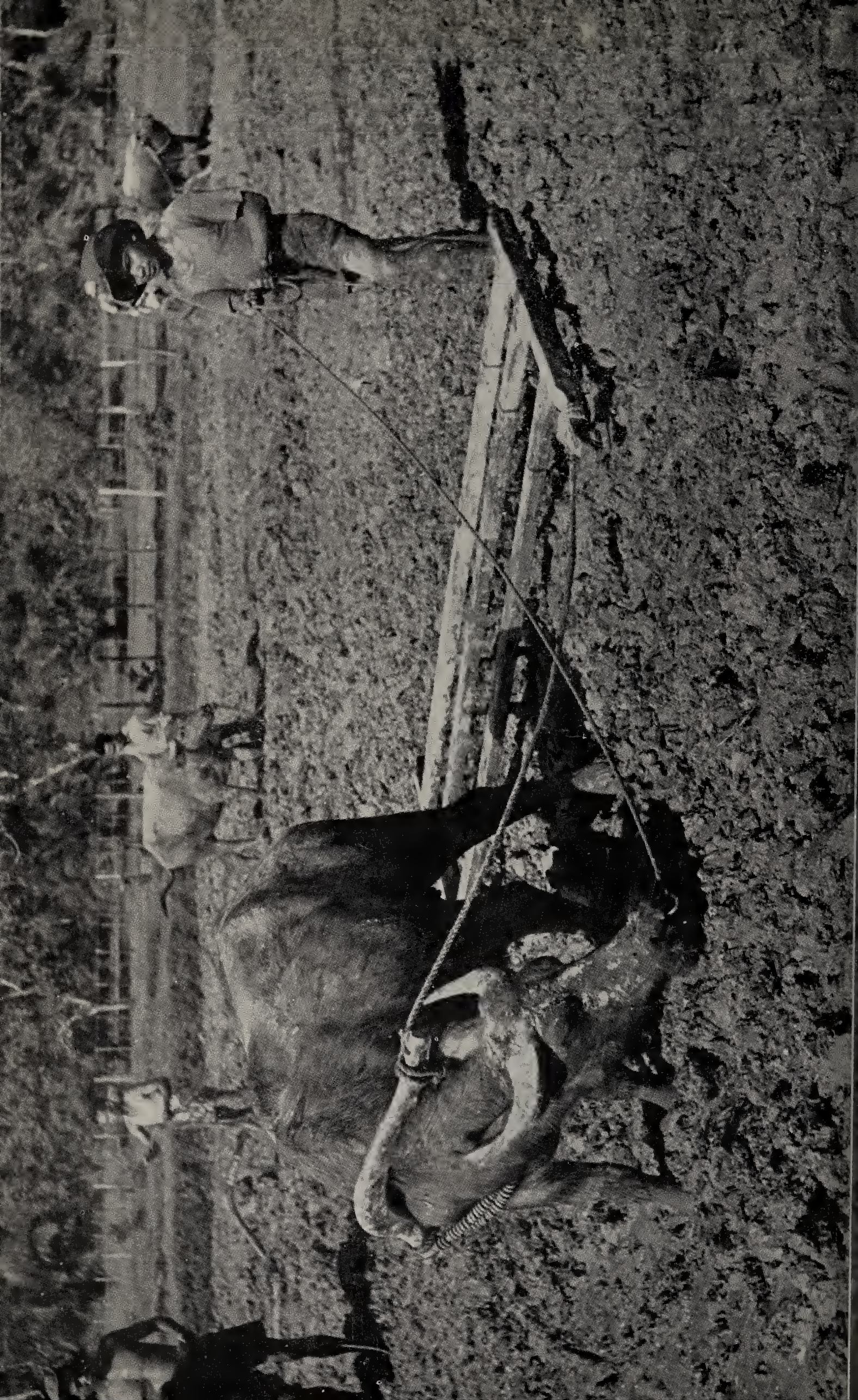












VI

LAND UTILIZATION AND TENURE

SARAWAK has an area of about 48,250 square miles, three-quarters of which is still covered by primary tropical rain forest. The remaining 12,000 square miles are used primarily for agriculture but only about 2,800 square miles are under settled cultivation. The other land is used by the indigenous people for shifting cultivation whereby dry *padi* is grown after the felling and burning of the secondary jungle which has grown up during the fallow period. The cycle of cropping varies with the total area of land available to the community but it is generally accepted that a minimum area of sixty acres per family is necessary to allow an adequate regeneration of secondary jungle. In many areas the increasing population coupled with the use of more land for the permanent cultivation of tree crops, without any corresponding reduction in the area devoted to the production of hill *padi* by shifting cultivation methods, has reduced the period of bush fallow to below the minimum and this is causing progressive impoverishment of the soils which are generally poor.

Rice is the staple food and dry *padi* grown by this method of shifting cultivation is inadequate to meet the needs of the population, and the standard of living of the majority of the indigenous people seldom rises above subsistence level.

Rubber, which is the main cash crop, is grown almost entirely on smallholdings and these comprise most of the settled cultivation. There are only a few small estates. Pepper, sago and coconut, and to a very small extent wet *padi*, are the other main cash crops.

Legislation

The earliest law controlling the administration and disposition of land was enacted by the Rajah in 1863 when provision

was made for the alienation of land under grants in perpetuity or for a period of 999 years and for the reservation of certain lands and mineral rights to the State. Provision was made in subsequent legislation for alienation of land by indenture, lease, permit and occupation ticket.

In 1932 all land legislation was consolidated in the Land Ordinance but a year later the Land Settlement Ordinance was introduced to supersede the Land Ordinance in certain limited areas of the country and to provide for the settlement of Native rights to land and for the registration of title in accordance with the principles of the Torrens System.

In 1949 supplementary legislation was introduced in the form of the Land (Classification) Ordinance to define the rights of Natives and non-Natives within the following classes of land:—

Mixed Zone Land

About 4,600 square miles of land is now classified as Mixed Zone Land and land in this category may be alienated to any race; it can also be occupied by a Native under customary tenure. As other classes of land cannot be alienated to non-Natives, the Chinese and other non-Natives may hold only this class of land and they now hold about 1,000 square miles. Land within this classification which is held under customary tenure can only be alienated after the rights have been surrendered.

Native Area Land

Only Natives may hold title and occupy this class of land, and much of the 2,600 square miles so classified is still under Native customary tenure.

Native Customary Land

All land held by Natives under customary tenure falls within this classification, and it ceases to be so classified when title is issued and it becomes Mixed Zone Land or Native Area Land.

Reserved Land

This category includes Crown land which is used by and reserved to Government for various purposes and includes Forest Reserves and Protected Forests, National Parks, etc.

Interior Area Land

Land not falling into any of the other four categories is classified as Interior Area Land and it comprises therefore mainly primary forest and a small amount of cleared land over which no customary rights existed.

A map illustrating land classification appears opposite page 54.

It was apparent from experience in using the Land and Land Settlement Ordinances that neither was satisfactory and in 1954 Mr. J. Caradus, a former Registrar-General of Land in New Zealand, was invited to prepare an Ordinance to consolidate the law relating to land into one piece of legislation and to bring it up to date by filling in gaps on which the law was silent and making amendments which experience showed to be necessary. The present Land Code was introduced on 1st January, 1958.

Land Tenure

All land used by the indigenous races for shifting cultivation and most of that under settled cultivation, except where title has been issued, is held under Native customary tenure.

The Rajahs regarded themselves as trustees of the land for the people of the country and, in 1946, under the Instrument of Cession, the land of Sarawak became Crown land but subject to existing private rights and Native customary rights.

Native law and custom under which land is held is a complex matter and the subject was recently investigated by Mr. A. J. N. Richards whose report *Land Law and Adat* was published in 1961. This report examines in detail the nature of customary rights and the position of the individual and the community in regard to them and it traces the origin and evolution of Native land tenure from the earliest records to the present time.

In 1939, the Rajah's Government, while recognising the need to respect and protect Native customary rights and to prevent the Native communities from impoverishing themselves by the disposal of land, decided that the recording of customary rights and the replacement of customary tenure by registered title was too slow. The Japanese occupation, and the subsequent period

of reconstruction during the post-war years, prevented much being done to improve the position.

Government's agricultural and rural development policy aims at stabilising the Native farmer by replacing subsistence agriculture by diversified and intensified farming on economic holdings. Customary rights are related to the pattern of subsistence agriculture and the present system of Native land tenure is therefore unsuited to sound economic development.

Although there is no shortage of agricultural land generally, the inaccessibility of much of the country because of poor communications and the system of protection of Native lands through customary law and land classification which has been mentioned earlier has prevented sufficient land being made available to satisfy the demands of the rapidly increasing Chinese population, about half of whom are engaged in agriculture.

The need for a reform of land tenure which is essential to the social and economical advancement of all races, has been recognised by Government particularly because, as in many other developing countries, land is tending to become a political issue.

In 1962, His Excellency the Governor appointed a Committee "to examine the existing laws and customs relating to land tenure in Sarawak and to make recommendations as to the measures necessary to ensure the best use of the land in the national interest and for the social and economic advancement of the rural communities and in particular to report on—

- (a) the changes necessary in the present system of land tenure;
- (b) the machinery required to carry out the recommendations; and
- (c) the financial implications involved.

The Committee, which spent two months in Sarawak from the beginning of June, comprised the Chairman, Mr. C. M. Johnston, C.M.G., formerly a Minister of Community Development and of African Affairs and member of the Kenya Administrative Service; Mr. S. R. Simpson, C.B.E., Land Tenure Specialist in the

Department of Technical Co-operation, formerly of the Sudan Administrative Service and Barrister-at-Law; and Mr. A. J. N. Richards, a senior officer of the Sarawak Administrative Service.

In October, the Committee submitted its report to the Governor. The majority of its broad recommendations have been accepted, and a Working Party has been set up to consider the implications of the report, and to formulate and plan the practical application of a national land policy. The report will be published early in 1963.

The Land Code will be replaced by separate Ordinances dealing with the various aspects of land administration and some major changes in the existing legislation will be made.

The present form of land classification will be abolished but Native interests in land will still be protected where necessary by requiring all dispositions of land to be approved by the Resident or District Officer or some appropriate body to whom the authority may be delegated.

Through schemes of systematic adjudication of customary rights more Native land will be brought under the provisions of statutory law. Titles issued to Natives in the past have been subject to the payment of a nominal premium, annual rent and survey fees, and this has discouraged many from seeking title. Native customary rights to farming land will now be regarded as amounting to ownership and will be recognised as such by the issue of a 999-year title free of premium, rent and fees.

Schemes for the adjudication of Native rights will be co-ordinated with other development and, in particular, with the extension work and subsidised planting schemes of the Department of Agriculture. They are likely to be concentrated in areas where Native farming is already based partly on intensive and settled agriculture. Land which is still used for hill *padi* on a bush-fallow system of cultivation will appropriately remain under Native customary tenure and Native reserves are likely to be created for the purpose.

The larger part of the occupied land in Sarawak, amounting to over 10,000 square miles, is still subject to Native rights and

the replacement of customary tenure by registered title is essentially a long-term process. In the past few years, more emphasis has been placed on rural development and this is to be the keynote of the 1964-1968 Development Plan, the outline planning of which, at Divisional level, was nearing completion at the end of the year. The Plan will pay particular regard to the need for planned development of rural areas and through schemes for the intensification of agriculture combined with the adjudication of Native customary rights, land should become available to ease the pressure of the non-Native demand as the Native communities require a decreasing area of land and thus release land for re-allocation.

The alienation of Crown land and the consolidation and subdivision of Native lands will, in future, be properly planned having regard to the topography, the agricultural use to which the land is to be put based on soils information and the size of an economic holding. It will no longer be necessary for an individual to seek suitable land and to apply for it. This practice, which has led to illegal negotiations between non-Natives and Natives for the surrender of customary rights and which has involved the survey of scattered lots, has proved to be uneconomical in the use of staff and has led to inevitable delays.

Organisation

The Land and Survey Department, under its Director, is responsible for the observance of the provisions of the Land Code. This responsibility includes the alienation of Crown land, subject to any direction by the Governor in Council, registration of all titles, rights and dispositions affecting land, all cadastral surveys whether for new alienations or mutations, the collection of land rents, premia, licence fees and other revenue from land and mineral rights, trigonometrical and topographical surveys and mapping, town and country planning and valuations of land and property where Government interests are affected.





The Director of Lands and Surveys is also responsible for the administration of the Mining Ordinance as far as the issue of mining leases, prospecting licences and other matters affecting land and Government rights and interests are concerned and

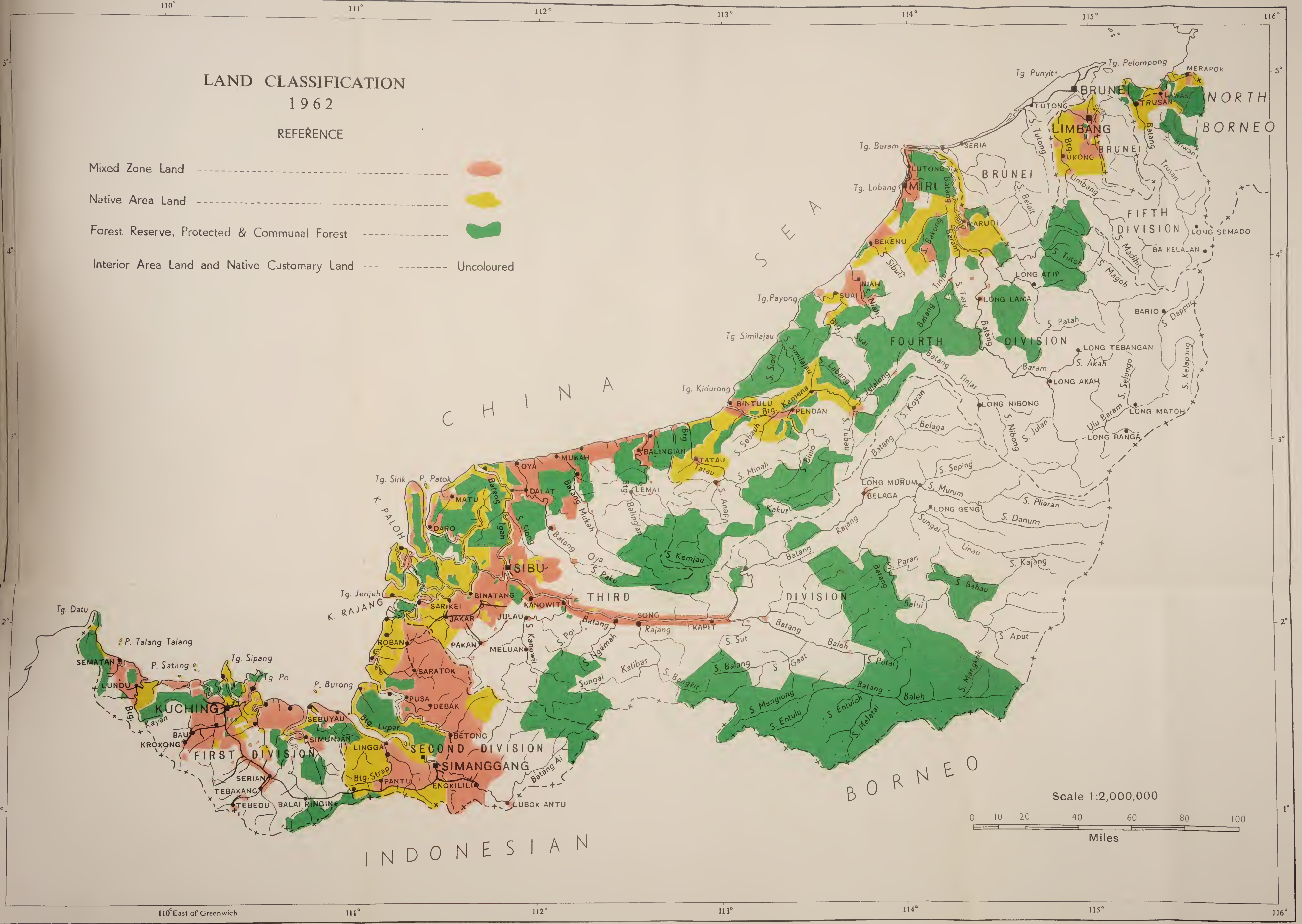
SARAWAK

LAND CLASSIFICATION

1962

REFERENCE

- Mixed Zone Land ----- 
- Native Area Land ----- 
- Forest Reserve, Protected & Communal Forest ----- 
- Interior Area Land and Native Customary Land -----  Uncoloured



until October, 1962, he was the Chief Inspector of Mines. The duties of Chief Inspector of Mines have now been assumed by the Director of Geological Surveys.

The headquarters of the Department is at Kuching in a large modern office building completed in 1961 and Divisional Offices, which consist of the Land Branch, Survey Branch and Land Registry, are maintained at Kuching, Simanggang, Sibu and Miri. In addition, provision is made for the preparation of deeds, the acceptance of land applications, the collection of land rent, the delivery of titles and the acceptance of premia, rents and fees at all District and Sub-District Offices throughout the country.

With the approval of a large increase in the establishment to enable the Department to meet its commitments difficulties in the provision of adequate office accommodation have been inevitable. In Kuching the situation was improved in 1961 when the headquarters, which until that time had shared accommodation with the Divisional Office, moved to its new building, while in Simanggang the addition in 1961 of a small wing to the existing office has alleviated the shortage of space for the time being. Further accommodation will be made available in the not too distant future. In Sibu allocation of extra space has been made which has given temporary relief but the situation will be remedied by the provision of adequate space in a new modern building which it is expected will be completed towards the end of 1963. In Miri a new modern building is also expected to be completed in 1963 which will enable all staff to be contained under one roof, while in Limbang in the Fifth Division a new building is to be constructed which will provide suitable accommodation for a new Divisional Office.

Recruitment and Training

The recruitment of personnel with a good standard of education suitable for appointment to technical posts in the Department has proved very difficult for many years. Most academically qualified applicants seek posts of a sedentary nature and there has been very little enthusiasm for any post where field work is involved. Since 1946 there has been a steady expansion in the work of Government Departments, in some a rapid expansion, and this in turn has increased the work of the Land

and Survey Department. In an attempt to meet its commitments and as personnel of the required educational standard were not forthcoming it was necessary to accept applicants with a lower standard of education. However the pressure of work was such that training on the job only could be given and as the senior staff to undertake the necessary supervision was not available this has not proved entirely satisfactory. Nevertheless the officers recruited have had a heavy burden to carry, their willingness, efforts and work are fully recognised and today they form the nucleus of the Department.

The expansion of the Department did not keep pace with developments or with the expansion of other Departments such as the Department of Agriculture and the Public Works Department with which it is required to work in close co-operation. An increase in the establishment was approved for 1960 but towards the end of that year it became evident that if the Department was to carry out its normal work, particularly in regard to development, and to meet the increasing demands made upon it a substantial increase in staff was necessary. A new establishment accepted in principle by the Government was prepared to be implemented over the next four or five years and as more students with the required academic standards were becoming available it was decided that no more sub-standard recruits would be accepted for technical posts.

Recruitment for technical posts both in 1961 and 1962 proved disappointing and for these two years only fifty-four new appointments were made. Unfortunately of this number eleven had left the Department by the end of 1962 when a large number of available posts remained unfilled. However from the number of enquiries received from those who completed their schooling in December the prospects of obtaining suitable candidates in the future appear much brighter and it is anticipated that at least forty new recruits will be obtained at the beginning of 1963.

The Department has for some years suffered from the lack of professionally qualified officers and a considerable increase was approved in the new establishment. At the beginning of 1962 there were only fourteen Divisions I and II posts of the establishment of thirty-three filled but at the end of the year

this had greatly improved by the appointment and arrival of eight new officers and the appointment of a further five officers who are expected to arrive early in 1963. The appointment of three additional officers is also expected to be made in the near future.

It was evident from previous experience that the training on the job of new recruits was not proving successful as heads of Divisional offices could not spare experienced men for training purposes and consequently new postings were proving to be a liability rather than an asset. To overcome this difficulty and to ensure uniformity in training a Survey Training School was opened in January, 1960. This school provides preliminary training in survey work only but it does ensure recruits are started in the correct manner and since its inception four courses, each of four to nine months' duration, have been held.

In 1961, in view of the necessity for further training in all branches of survey work, the Directors of Lands and Surveys, Sarawak and North Borneo, held meetings to discuss the question of the setting up of a joint Sarawak/North Borneo Survey School. A scheme for such a school was prepared and accepted by both Governments and as the result of an application early in 1962 for assistance under the Colombo Plan Aid Scheme the New Zealand Government made a generous grant of £14,500 for the purchase of all the necessary technical equipment and furniture. In addition, under the Aid Scheme, the New Zealand Government have also provided the services of two Instructors for the school from the New Zealand Department of Lands and Surveys. The Instructors arrived in Sarawak in December and the first course (each course will be of two years' duration) will start on the 1st February, 1963, in temporary accommodation which has been obtained. The permanent school buildings are to be built at Semonggok, approximately twelve miles from Kuching, and will be completed during the coming year.

In 1961 short courses in draughting work for all new recruits were commenced and with the arrival in July of an Instructor in draughtsmanship provided by the New Zealand Government under the Colombo Plan Aid Scheme short courses were also undertaken at Divisional offices. Arrangements have now been

completed for extended courses in draughtsmanship to be commenced in January, 1963, which will be of material assistance to the Department.

Progress in the training of selected members of the staff to obtain full professional qualifications for appointment to senior posts in the Land and Survey Department, thus implementing the Government's policy of Borneanisation, has been made. One officer completed his training at the end of 1961 in New Zealand and obtained his Diploma in Urban Valuation and a second officer was granted the Certificate of Competency by the Survey Board of New Zealand in September. Another officer, awarded a correspondence scholarship under the Colombo Plan Aid Scheme, successfully completed his examinations at the beginning of the year and proceeded to New Zealand to undertake two years' practical training by the Survey Board. He is expected to obtain his Certificate of Competency early in 1964. In September, four members of the Department proceeded to the United Kingdom having been awarded scholarships to enable them to study for the full professional qualifications in Land Surveying of the Royal Institution of Chartered Surveyors. Two officers were awarded correspondence courses to enable them to study for the first examination in Valuation of the Chartered Auctioneers' and Estate Agents' Institute. Further awards for training scholarships are to be made in 1963.

Since 1956 a number of overseas "in-service" training scholarships have been awarded to members of the Department. In 1956 one officer was awarded a scholarship tenable at the Technical College, Kuala Lumpur, and he obtained a Diploma in Surveying on completion of the course in 1960. Two similar awards were made in 1958 and both officers were granted Diplomas on completion of their courses in May last. Two junior officers received nine months' training in cartographic draughtsmanship in Malaya in 1957/58 and in September last two senior draughtsmen proceeded to the Ordnance Survey, United Kingdom, to undertake a course in cartographical draughtsmanship which will enable them to undertake duties as Instructors on their return. Awards made in 1961 enabled an officer to take a course in Photographic Reproduction in Malaya and in May last the

Department's Instrument Mechanic proceeded to Switzerland for further training in the maintenance and care of the modern survey instruments with which the Department is now equipped. With the introduction in the Department of modern air survey plotting machines training of operators became a matter of urgency. One officer proceeded to the Land and Survey Department, North Borneo, for the necessary training in September last and a second officer, awarded a two-year training scholarship in Photogrammetry by the Australian Government, will leave Sarawak at the beginning of January, 1963. Further "in-service" training awards are to be made in 1963.

Review of Progress

1962 brought about a further increase in land administration work generally. 5,224 new titles were issued bringing the total number of titles to 171,391. Of these, 68,000 have been issued since 1947.

The Land Registry handled an increased volume of work and the number of instruments registered was 13,260 as against 11,597 in 1961. Stamp Duty of \$451,253 was collected and preparation and registration fees amounted to \$103,683.

Valuation work increased considerably during the year. Rent revision of titles was virtually completed over most of the country in 1961 and was completely up-to-date at the end of 1962. The total valuation in 1962 for probate purposes was \$1,643,384 and for Stamp Duty \$33,771,660.

Surveys for cadastral and topographical purposes were continued throughout the year but difficulties were met due to the fact that recruitment was very small and the necessity to withdraw a number of surveyors for higher training. Two surveyors of the Directorate of Overseas Surveys were stationed in the country for the greater part of the year and, assisted by junior surveyors of the Department, continued tellurometer traverse work to fix control for mapping and cadastral purposes. This work was the continuation of the scheme started in 1960 to supply survey control with considerable financial assistance being given under the Colonial Development and Welfare Scheme and material assistance from the Directorate of Overseas Surveys.

At the end of 1962 a total of 1,790 miles of traversing had been completed and 149 control points fixed. During the whole of 1962 the work was carried out under very difficult conditions.

The repercussions of the Brunei revolt in the Fourth and Fifth Divisions of Sarawak brought survey work in the affected areas to a standstill in December. Officers of the Department were engaged on emergency duties in support of the military and police.

There has again been an increasing demand for land by the Chinese. It comes from those who wish to invest in agriculture, though not necessarily farmers themselves, from those who wish to take advantage of the subsidised rubber and coconut planting schemes, from many who have old rubber on swamp land which is unsuitable for replanting, and from others who as a result of the increasing population need land to establish themselves as smallholders.

A condition of participation in the subsidy planting schemes has been the obtaining of title to land and the majority of Native applications have been made for this reason. To avoid any delay in planting, arrangements were made for this condition to be waived temporarily where Natives intend to plant on their own customary land, and where the survey and issue of title without delay is impossible.

In the First Division, the demand for land by Chinese remains keen and is concentrated in areas of Chinese settlement where the demand cannot be satisfied. Little or no unencumbered Crown land suitable for agriculture remains and the Native population requires all the land it occupies until intensive settled cultivation has progressed to a stage when there will be land surplus to requirements.

In the Second Division, there is considerable interest in lands which have been made accessible by the Serian-Simanggang trunk road which was opened to restricted traffic during the year. Nearly all the suitable agricultural land is held under Native customary tenure and only isolated lots are available for alienation until rights over surplus land are surrendered.

Preliminary land use surveys based on air photography have been completed in the area between Simanggang and Abok and similar work is being undertaken in the area through which the Engkilili-Roban road will run. At Kabong, surveys and investigations in conjunction with new large-scale air photography have been started to obtain preliminary data for the proposed drainage scheme which may start in 1963. It is intended to bund and drain an area of 12,000 acres, partly under forest which is now being exploited, for alienation and the planting of coconuts under the Coconut Planting Scheme and, on a smaller scale, for wet *padi*.

In the Third Division, where the demand for land by Chinese remains unsatisfied, an area of approximately 115 square miles of land was reclassified, approximately one-third as Native Area Land and two-thirds Mixed Zone Land. The reclassification, which was based on preliminary land use and population surveys, will enable Dayaks who are known to have surplus Mixed Zone Land to apply for title and dispose of the land if they wish. By the end of the year Native customary rights had been investigated over more than 8,000 acres and 650 lots were surveyed for the issue of title early in 1963.

In the same area, some 6,000 acres of Crown land has been surveyed in lots of 10-15 acres and approval for alienation was given at the end of the year, Native customary rights over part of the area having been surrendered on the payment of compensation in 1959. The land has been allocated partly to Chinese and partly to Malays of Sibü. Another area of Crown land, still under primary forest near Bukit Tanggi, contains between 10,000 and 12,000 acres of land. This is being subdivided provisionally into blocks for alienation in 1963. The survey and construction of an access feeder road into this area has been approved.

In the Fourth and Fifth Divisions there is no pressing demand for land as there is in the First and Third Divisions. There is a small local demand by Chinese, particularly in the Miri area, which can be satisfied as soon as the new road extending southwards from Miri gives access to areas known to be suitable for agricultural development.

Surveys and investigations to provide the necessary land use data for preliminary land development planning were continued

in 1962. Survey parties have since been employed continuously in this area investigating the use and occupation of land by various communities and in providing ground survey control for topographical mapping. The area falls within a block of 1/50,000 contoured topographical maps which will be produced from air photography by the Directorate of Overseas Surveys as soon as the necessary ground surveys have been completed. Two survey parties using tellurometers and made available by the Directorate, are also engaged on this work.

Land use surveys have been completed for a large part of the Sibuti watershed and this work has been assisted by Royal Air Force air photography taken in 1961. In October, 1962, the Department, using its own air survey camera and a chartered Borneo Airways aircraft, obtained new and larger scale air photography of this area.

The immediate demand for land in the area can probably be satisfied by alienation of unencumbered Crown land. Later, it will probably be possible to extinguish rights over surplus Native Customary Land within the framework of schemes aimed at the consolidation and settlement of farmers on fully-developed economic holdings and the development of villages in which expanded social services and amenities can be provided.

Tentative enquiries for land for estate development have been made but recent indications are that no developer is likely to consider establishing an estate in this area until a solution is found to the potential labour shortage which will be one of the main problems facing the Fourth Division.

Some interest has been shown by the Foochows of the Third Division in small-scale migration to the Fourth and Fifth Divisions and small and slowly expanding colonies have been established at Sibiew, near Bintulu, and in Baram near Marudi. There is unlikely, however, to be a sudden rush for large areas of good agricultural land in the Lambir/Subis area when it does become available. Potential Chinese settlers from areas where there is a population pressure, particularly those in the Lower Rejang, are likely to prefer to take up land nearer home even if the soils are poorer and a longer delay is involved in obtaining new land in the areas which will be opened up by the new roads.

The planting of rubber on 2,000 acres of land at Bukit Birop and its subdivision has been completed. The investigation of Native customary rights over 800 acres at Batu Belah was completed prior to alienation for rubber planting. Part of the area which is classified as a Forest Reserve will be excised. Another block of land at Marudi will be available for alienation as soon as the timber has been worked off.

In the Fifth Division, a systematic survey of Native Customary Land belonging to the Bisayah community, combined with an investigation of rights and land use, has been made over some 6,000 acres of land at Danau in the Limbang valley where an experimental plot of oil-palms has been established by the Colonial Development Corporation. These surveys form part of the preliminary investigation into the possibility of establishing an oil-palm estate.

Revenue from land is obtained from the premium payable on the alienation of land under a lease and from an annual rent, both of which are still charged at nominal rates. In 1958 a systematic revision of rents was started, new rents being based on the leasehold value of town and suburban land and, for country land, a flat-rate increase from \$1 to \$3 per acre. Rent collected in 1962 amounted to \$1,310,614 as against \$338,287 in 1947.

Over \$1,310,000 was paid for thirty lots of land for commercial development in Sibu town sold by public auction in March, one lot reaching a price of \$38 per square foot. The total revenue from premium and land sales in 1962 was \$1,866,960.

It has again been necessary to acquire land compulsorily for various public purposes including new roads, new school sites, extensions to Government buildings including the Kuching General Hospital, and for town development. A number of owners who appealed to the High Court were in some cases awarded increases in the amounts of compensation to be paid for the land.

It was realised when Sarawak became a British Colony in 1946 that for development and other purposes the provision of large-scale maps of the country was an urgent necessity. At

that time the largest scale map available of parts of Sarawak was on a scale of two miles to one inch. This series was comprised of 18 sheets, three sheets only being printed, and covered approximately 15 per cent of the country. During the war the military authorities produced a four mile to an inch series covering the whole of Sarawak but the detail shown for the inland areas was very sketchy and far from reliable. The information on both the two mile and four mile series was compiled from cadastral surveys where they existed, compass traverses of main rivers, and sketch maps prepared by various travellers and Government officers. Also available, in two sheets, was an eight mile to one inch map and a sixteen mile to one inch map, both of which were produced and published by the Department, but information shown was again vague and unreliable in many areas.

To meet the demand for larger scale mapping arrangements were made whereby the Royal Air Force would provide photography of the country at a scale suitable for mapping purposes, the Land and Survey Department would be responsible for the necessary ground control and the identification and annotation of photographs and the Directorate of Colonial Surveys (now Directorate of Overseas Surveys) would undertake the mapping to produce a map series at the scale of 1/50,000.

The climatic conditions of Sarawak are such that there are only short periods when large areas of the hinterland are free from cloud and the task of photographing the whole country is therefore a formidable one. From 1947 to 1953 photography, at a contact scale of 1/25,000 for the coastal regions and 1/35,000 for the island areas, was undertaken every year but at the end of this period approximately 25 per cent of the country remained uncovered. Between 1954 and 1957 only a few special sorties were flown but between 1958 and 1961 attempts to re-photograph the whole country at contact scales of 1/60,000 and 1/90,000 were made. Climatic conditions were such that little success was obtained and in 1962 photography was continued but at the contact scale of 1/40,000. This proved a little more successful and the task will be continued in 1963. Photography so far achieved at all scales has been put to very good use not only

by the Department but also by other Departments, especially those of Agriculture, Geological Survey and Forestry.

The first map of the 1/50,000 series was produced in 1951 and at the end of the year a total of 145 sheets covering approximately 70 per cent of the country were available. Of this total ninety-one sheets have been produced, printed and published by the Directorate of Overseas Surveys, eight of these are fully contoured, ten are hill shaded and the remainder planimetric. The remaining fifty-four, which are preliminary sheets, have been produced and published, deltalyne only, by the Department. A further sixteen sheets have also been produced by the Department but have now been superseded by the Directorate's publications. The preliminary sheets are produced from air photographs by the slotted template method of assembly and radial line plotting but in many cases the ground control is not sufficient to guarantee absolute accuracy. They have, however, served a very useful purpose particularly where demands for large-scale maps have been very insistent.

It will be noted that at present practically the whole of the maps produced in this series are planimetric only. While the Department has been able to supply planimetric control, and in this connection reference has been made earlier to the assistance being given by the Directorate of Overseas Surveys, it has not had the staff available to undertake the provision of height control required to produce fully contoured editions. Contoured editions of this series are essential and in 1961 the military authorities gave approval for a detachment of Eighty-Four Survey Squadron, Royal Engineers, to undertake the provision of additional planimetric control and the necessary height control for the fully contoured mapping of a large area covering the whole of the Limbang basin, the Trusan and the Miri, Sibuti and Marudi areas. Eight of the sheets covering the area have been published by the Directorate and the publication of a further eight sheets will be made early in 1963.

Further assistance by the Survey Squadron, Royal Engineers, was approved during 1962 and planning for the provision of further control, planimetric and height, of the area covering the whole of the First Division and a large part of Second Division to

enable a revised and fully contoured second edition of twenty-six sheets is now in hand. Field work is to commence early in 1963.

In addition to the 1/50,000 mapping the Department has also been engaged in the production of map series covering the whole of Sarawak at the scales of 1/125,000, 1/250,000, 1/500,000 and 1/1,000,000. Of these maps probably the most important is the 1/125,000 series. The series comprises twenty-nine sheets and compilation of the first sheet was commenced in 1957 and printed and published in 1958. At the end of 1962 seven sheets had been published, fair drawing of two other sheets had been completed and awaited printing and compilation of the remaining twenty sheets had been completed. Deltalyne copies of the compilations have been made available as a preliminary edition for general use.

The 1/250,000 map series of Sarawak in seven sheets was produced and published in 1956-57 as a Land Use Map series. This has proved a very popular map and has been in so great a demand that stocks are nearly exhausted and can be no longer sold to the general public, remaining stocks being reserved for official use. The 1/250,000 scale map is a good general purpose map and during 1962 it was decided to produce a new series on redesigned sheet lines, giving eleven sheets to cover the whole country. It was further decided that compilation should be drawn at the scale of 1/200,000 from which blue pulls could be made for fair drawing. This task was progressing well when the emergency in December made it imperative that the military authorities obtain full map cover of Sarawak as quickly as possible and as they required maps in great numbers at four miles to an inch, an all-out effort was made to complete the compilation material of all sheets in the shortest possible time. As each compilation was completed photographic copies were supplied to the military authorities who by a photo-mechanical process were able to produce the maps they required within a few days of the start of the emergency. Checking of all compilations is now in hand preparatory to the commencement of fair drawing.

Two map sheets covering the whole of Sarawak at the scale of 1/500,000 were published in 1951. This scale map proved to

be very popular but unfortunately it is now very much outdated and on completion of the larger scale map series work on the revision of the series will be put in hand.

The first edition of the 1/1,000,000 physical map of Sarawak was published in 1949 and the second edition in 1953. Minor revision of the second edition was made in 1956 when it was necessary to reprint this map. However, in view of the length of roads constructed since 1956 and the information now available on more of the country arrangements were made in September last to produce a third edition as soon as possible. At the end of the year fair drawing had been completed and the third edition will be published in 1963.

In addition to the above mapping projects the Department has been called upon to produce many maps for a variety of purposes such as the district map for the Census Report, a population map, maps for the Annual Reports, town maps, etc.

With the emphasis on development and consequently the increase in demands for large-scale photography for land utilization purposes and larger scale maps for planning purposes it was necessary for the Department to obtain a modern air survey camera and also photogrammetric plotting machines. The Wild RC 8 air survey camera was received in July last and a number of sorties were flown at heights varying from 2,500 feet to 12,500 feet above ground level. The photography obtained has proved extremely useful and many more sorties would have been flown had the aircraft of the Borneo Airways Limited, which has been modified for air survey work, been available. A large programme of photography has been arranged for 1963.

In November, the first of the air survey plotting machines, the Wild A.7 Autograph, was received and the training of operators was started. Two Wild B 8 stereoplotting machines will arrive early in 1963 when an extensive programme of large-scale mapping for development purposes will be put in hand.

TOWN AND COUNTRY PLANNING

The need for the proper physical planning of Sarawak's development has been recognised and it has been necessary for the Department to devote more time and staff to this aspect of

its responsibilities. A small town and country planning branch is being built up at both Headquarters and Divisional level.

The Town and Country Planning Ordinance has never been brought into force, and it is now intended to replace it by modern legislation. During 1962, Mr. Kenneth Watts, B.Sc., A.M.P.T.I., of the Building Research Station, Department of Scientific and Industrial Research in England, was made available through the Department of Technical Co-operation to visit Sarawak and to advise Government on the new legislation and on the organisation necessary for the physical planning of development. His report is under consideration, and the draft ordinance has been referred to the Colonial Housing and Town Planning Advisory Panel.

During 1962, assistance was given in the preparation of draft Divisional Development Plans for the new 1964-1968 programme. Day-to-day advice has been given to local authorities on town planning matters, and in the preparation of Control of Advertisement By-laws and the draft Buildings Ordinance.

The work of the Town and Country Planning Committees which were formed in each Division has been largely absorbed by Divisional Development Committees which now have been made responsible for the co-ordination and consideration of the draft Development Plans.

Two qualified Town and Country Planning Officers were recruited during 1962. One has been posted to Sibü and the other will shortly start work on the preparation of a Town Plan for Kuching, in anticipation of which land use and other data has been collected and recorded. As the capital of Sarawak many of the town's needs are related, not only to the First Division, but to the country as a whole.

The rapid development of Kuching has brought about the usual problems of traffic, car parking and congestion. The expansion of the suburban areas, mainly for residential use, has created a demand for more shophouses, and it was necessary for the Governor in Council to overrule the approval by the Kuching Municipal Council for the ribbon development of shophouses along the Pending road leading to the port.

Although residential development increased considerably in Kuching and Sibü and in the other small towns, the housing situation cannot be regarded as satisfactory.

Estimates made during 1962 showed that at the census date in 1960 the population of urban Kuching was about 77,500, and projections show that this is expected to reach at least 110,000 by 1970. This means that, if the housing shortage is to be solved by 1970, it will be necessary to construct about 10,000 houses or to treble the present rate of building.

An important contribution towards solving this problem in Kuching has been made by interest in terrace housing. Most building contractors have thought previously that there was no market for this type of housing and it was extremely difficult to interest them in anything but detached and semi-detached housing. Fortunately one contractor decided to give terrace house development a trial, with considerable success. As a result a number of other contractors are entering the field, and are providing reasonably high standards of accommodation at comparatively low prices. So far construction has been confined to small subdivisions but construction should commence on several estates early in 1963.

Whilst this development has opened up the possibilities of house ownership to an entirely new section of the community, there is still a considerable number of people to whom this is impossible at the present time. The question of low-cost housing has been studied in 1962 with a view to providing low-cost units for sale, but there is little doubt that it will also be necessary to provide low-cost rental accommodation as well. In 1963 Government will probably arrange with Borneo Housing Development for the development of about 200 acres of Crown land in the Sekama area for housing, including low-cost housing, with provision for associated schools, shopping facilities, and possibly a small area for light and service industry.

The opening of the Kuching New Port at Tanah Puteh has had a marked effect on the town of Kuching. During 1961 an outline development plan for the area adjoining the port was prepared, and during 1962 the Commissioner of Town and

Country Planning, Malaya, was invited to visit Kuching to advise on the development of the area taking into account the possibilities of coal being shipped from Pending.

An outline plan for the next phase of town development at Sibu has been prepared and will be considered early in 1963. This will involve the acquisition of alienated land and the resettlement of a *kampong* residential area. The discovery of a new deep-water channel has enabled larger ships to reach Sibu and this is likely to have a marked effect, not only on Sibu as the second major town and port of Sarawak but on the region as a whole.

Land was acquired in 1962 for the development of an industrial area by the Borneo Development Corporation which also has plans for the construction and sale of over 50,000 square feet of godowns on the reclaimed riverfront at Pulau Babi.

Much of Sibu's early post-war residential development comprised wooden terrace-type houses built above ground in overcrowded layouts with inadequate roading, sewage and drainage, all of which present problems because the greater part of Sibu is low-lying swampy land subject to seasonal flooding.

As in Kuching, there is a great need for properly developed low-cost housing to make good the deficiencies both in quality and quantity in the houses now being built and the urban district council will have to adopt stricter measures and control over residential development if the housing problem is to be overcome.

Sarikei has become the established centre of a fast developing agricultural area in the Lower Rejang and an analysis has been made of port requirements there, prior to the preparation of a town development plan.

The development of Miri, the headquarters of the Fourth Division, is restricted by, but to a large extent dependent upon, the activities of the Sarawak Shell Oilfields Limited. Much of the town area remains within the oil mining concession area, but some land no longer required by the Company is likely to be released in 1963. The agricultural and forestry development possibilities of the Miri District will help to restore some of the lost prosperity due to declining oil production.

The construction of new roads will have an increasing effect on the smaller towns and bazaars and considerable planning effort will be required if these new towns and villages are to be developed on sound lines. Provisional town development plans for Simanggang, Limbang and Lawas are in various stages of preparation and these should enable local authorities to exercise some interim control on development, before a full development plan can be prepared.

The Department has worked in close co-operation with the Ports Manager in the assessment of port requirements generally and research into the likely effects of the developing road network on the existing river and coastal launch transport.

VII

PRODUCTION

AGRICULTURE

OCCUPYING an area of 48,250 square miles, Sarawak comprises a coastal strip some 450 miles in length and varying from forty to 120 miles in depth. Topographically deep coastal swamps give way to sharply undulating hills and ultimately to a steeply mountainous interior. Although narrow strips of comparatively fertile land occur along river banks, there is little flat land for large scale development, and soils, in the main, are inherently poor. Vast areas of coastal swamp are uncultivable by virtue of depth of peat and the impracticability of drainage; in the interior steepness of slope makes agricultural development almost impossible, while the intervening strip of undulating land features thin soils, of high acidity and low fertility, derived principally from sandstones and shales and which have, to a greater or lesser degree, suffered the ravages of a bush-fallow system of farming.

At the same time a rainfall of some 160 inches per annum, in which heavy precipitation and consequent flooding are characteristic, the absence of a marked dry season, and a high and uniform humidity and temperature, further militate against agricultural development in the wider sense and dictate a "tree crop" economy for cash income.

It is perhaps surprising, therefore, that as shown by the 1960 census of population, some 78 per cent of the economically active population should be engaged in agriculture. Alternatives, however, are few and it is clear that, for a long time to come, any improvement in living standards must come from improved farming practices and the proper utilization of natural resources, meagre though these may be. In this connection Sarawak's people are its greatest asset. Unsophisticated and unspoiled they are unusually willing to accept advice and guidance.

The pattern of agriculture as depicted by an agricultural census, conducted in conjunction with the Food and Agriculture Organization World Census of Agriculture, 1960, shows the country to be almost exclusively smallholding in character—there are only five large estates, all of which are planted with rubber. Farming takes the form of either settled or shifting cultivation. As interpreted by the Land and Survey Department from aerial photographs taken between 1947 and 1953, the former is estimated as utilizing some 2,700 square miles (6 per cent) of the territory and comprises smallholdings of rubber, pepper, coconuts, sago and minor cash crops with or without wet *padi*; the latter represents a system of bush-fallow for the production of a single annual dry *padi* crop to which 8,700 square miles (18 per cent) of the territory is estimated to be devoted. The balance of the available area is under forest of all types.

An indication of the volume of production of the more important crops is given in the following table showing foreign exports, rice imports and *padi* purchases for the years 1940 and 1946 to 1962.

RUBBER EXPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	35,147	26,167,140
1946	23,521	19,316,549
1947	35,550	26,084,589
1948	39,879	34,532,924
1949	38,902	31,545,400
1950	55,475	113,941,617
1951	42,521	158,865,402
1952	31,471	65,182,029
1953	23,188	31,616,358
1954	23,958	31,087,822
1955	39,411	78,744,880
1956	41,234	68,635,041
1957	41,005	73,301,798
1958	38,543	60,430,509
1959	43,930	94,898,236
1960	49,961	122,440,482
1961	46,916	83,256,913
1962	43,306	72,597,147

WHITE PEPPER EXPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	1,186	348,874
1946	601	826,881
1947	1,460	3,118,384
1948	424	1,119,935
1949	313	—
1950	267	3,997,749
1951	1,160	17,542,746
1952	1,997	17,866,003
1953	1,391	9,364,407
1954	2,715	9,529,122
1955	2,334	5,922,457
1956	2,760	4,498,486
1957	2,298	3,872,794
1958	5,137	9,986,059
1959	6,543	15,616,475
1960	3,394	15,180,009
1961	7,052	19,634,680
1962	7,084	16,100,259

BLACK PEPPER EXPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	108	13,629
1946	53	33,020
1947	107	95,115
1948	18	39,307
1949	7	38,437
1950	15	109,417
1951	49	382,438
1952	2,016	15,165,832
1953	7,606	40,079,679
1954	12,750	34,177,391
1955	13,964	25,702,343
1956	17,058	20,111,645
1957	11,422	13,359,187
1958	4,589	5,157,561
1959	1,797	2,483,287
1960	707	2,020,197
1961	3,902	9,010,855
1962	4,497	7,786,593

COPRA EXPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	2,070	70,629
1946	18	3,369
1947	168	50,448
1948	1,715	1,040,412
1949	3,418	1,676,702
1950	4,330	2,651,451
1951	3,864	2,654,196
1952	2,612	1,106,541
1953	2,635	1,275,837
1954	2,994	—
1955	1,575	504,352
1956	—	156,540
1957	—	—
1958	117	70,179
1959	84	54,694
1960	—	—
1961	—	—
1962	—	—

SAGO FLOUR EXPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	23,142	2,184,997
1946	5,048	1,097,664
1947	39,221	10,598,863
1948	49,751	11,124,325
1949	27,082	4,699,629
1950	28,243	9,277,842
1951	23,945	7,988,232
1952	22,619	5,954,774
1953	16,073	4,371,384
1954	12,543	2,828,635
1955	9,871	2,006,735
1956	12,576	2,422,702
1957	12,779	2,088,559
1958	16,508	2,345,107
1959	17,780	2,399,769
1960	19,967	2,788,335
1961	24,455	3,298,398
1962	31,621	4,169,921

RICE IMPORTS FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons	Value \$
1940	34,626	3,302,076
1946	4,379	1,430,510
1947	18,963	6,282,957
1948	17,244	7,201,838
1949	11,517	5,391,361
1950	19,331	7,815,269
1951	31,413	13,056,856
1952	28,302	15,704,625
1953	21,667	11,883,750
1954	22,167	9,209,103
1955	32,338	12,523,670
1956	37,544	14,044,075
1957	46,982	17,447,649
1958	38,275	14,846,765
1959	50,484	16,586,958
1960	44,987	14,140,607
1961	59,293	20,541,802
1962	51,335	22,067,642

GOVERNMENT PURCHASES OF PADI FOR THE YEARS 1940 AND 1946 TO 1962

Year	Tons
1940	—
1946	—
1947	3,301
1948	4,360
1949	6,244
1950	1,299
1951	743
1952	995
1953	2,691
1954	7,506
1955	12,270
1956	6,066
1957	6,085
1958	2,405
1959	2,015
1960	2,335
1961	1,060
1962	142

Rice is the staple food of the people of Sarawak. The area planted varies from year to year. The vagaries of the weather influence the acreage of hill *padi* planted and the market price of *padi* that of wet *padi*. Approximately 185,000 acres of hill *padi* and about 95,000 acres of swamp *padi* are planted in an

average year. Some districts produce a surplus of rice for cash sale; but only about 36 per cent of all rice growers produce enough for family needs and half the rice consumed in Sarawak is imported.

Standards of wet *padi* cultivation are low. An abundance of wet *padi* land in coastal and riverine areas allied to poor natural drainage has resulted in a given area being cultivated only once in several years; in consequence there has been little interest in the construction of bunds or drainage and irrigation systems. Cultivation is rudimentary and the use of animal drawn implements almost unknown. Yields are low, averaging little more than 200 *gantangs* per acre.

Yields of hill *padi* grown on a bush-fallow system are always uncertain but seldom exceed 150 *gantangs* (267 pounds) per acre. Despite low returns the farmer is completely tied to a crop which makes such demands upon the energy of the farm family as to provide little opportunity for other farming pursuits. The hill *padi* farmer lives very near to subsistence level and is often forced to seek temporary employment in order to exist until the next harvest.

Rubber is the most important export crop and almost every racial group is concerned in its production. A considered estimate of the area planted at the end of 1962 was of the order of 369,000 acres almost exclusively in the form of smallholdings. Annual exports vary between 40,000 and 50,000 tons representing, again on average, some 54 per cent of the total value of exports excluding petroleum products. Some 18 per cent of the planted acreage is high-yielding rubber but most of this has not yet come into production. The balance comprises old, unselected rubber trees fast approaching the end of their economic life. Yields in consequence are low. The return to the farmer is further lessened by the use of crude processing methods and equipment and resulting in the production of thick, dirty, sheet contaminated by mould which is usually sold unsmoked. The rehabilitation of the rubber industry represents one of the Department's major undertakings.

Pepper is mainly cultivated by Chinese farmers, although Native farmers have shown an increasing interest in this crop. Pepper, which is second only to rubber in importance as an

export crop, occupies an area of just over 7,000 acres. Holdings are small, averaging three-quarters of an acre, but the method of cultivation introduced by the Chinese is most intensive. Lack of capital has hindered Native planting while speculation associated with the fluctuating price of this crop has hindered a steady standard of maintenance and even production by Chinese smallholders. The main centres of production are in the First and Third Divisions. Disease control and techniques to lower costs of production are the main problems associated with pepper cultivation.

The sago palm occurs widely throughout Sarawak. The main concentrations are in the Third (Mukah District) and Second (Saribas District) Divisions where some 90,000 acres are estimated to exist. Although one of the country's major revenue earners in the 19th century the importance of the crop has declined. Prices have been uniformly low in recent years. The working of the crop has passed largely to the women of the communities concerned, who make a coarse extract for sale to ill-equipped factories. These produce and export a low grade flour. It is paradoxical that in these circumstances exports have shown a steady increase over the last eight years. This, however, merely reflects the complete lack of an alternative means of livelihood in the sago producing areas.

The area under coconuts is estimated at 50,000 acres with the coastal fringes of the First and Second Divisions by far the most important producing areas. Holdings average about five acres but occasionally extend to as much as 100 acres. A low quality copra is produced for sale to local oil and soap factories. There is a small export of coconut oil but not of copra. Elsewhere the palm is maintained for the production of fresh nuts for domestic use or for local sale. There is scope for considerable expansion in the coconut industry and this is receiving attention by the Department in the shape of a subsidised coconut planting scheme.

Fruit is widely cultivated but trees are usually scattered and the quality of the produce is poor. The peculiarities of the Sarawak climate make fruiting irregular. Produce is largely consumed in the home but in good seasons local sales can supplement a farmer's income very considerably. There is considerable variety including bananas, citrus, *durian*, *rambutan*,

pineapple, *langsats*, mangosteen and mango. Citrus—mainly mandarin oranges and pomelo—is the exception to scattered planting. Sizeable compact blocks are grown on an intensive basis in the Sarikei, Binatang, and Matu Districts of the Third Division and in Bau and Serian Districts of the First Division.

Minor crops include maize, coffee, *kapok*, groundnuts, ginger, soya beans, sweet potatoes, and tobacco, while vegetable growing by Chinese market gardeners is practised in the vicinity of the larger towns. The African oil palm is considered a crop with a potential future in Sarawak.

With limited exceptions livestock rearing can only be regarded as of minor importance and mixed farming as such is unknown. There are pig and poultry enterprises in urban areas, which are organised on an intensive basis with reasonable standards of management and represent comparatively big business. Elsewhere pigs, although plentiful, are little more than scavengers around and under a longhouse. Improperly fed and managed they provide for the very occasional inclusion of meat in a predominantly carbohydrate diet. The absence of a ready source of cheap protein for inclusion in livestock rations coupled with the fact that these pigs consume very much the same food as their owners, who have only a bare adequacy, militates against general all round improvement.

Buffaloes are found in appreciable numbers only in the Fifth Division where they are kept mainly as an indication of social standing. An increase in their numbers in other Divisions and employment in wet *padi* cultivation are matters of importance which are being encouraged.

Cattle are few in number. Small herds are kept on the drier, sandy, coastal stretches although Dayaks in riverine areas do maintain small numbers on a communal basis. The animals are, however, allowed to roam free and there is no attempt at management. Several small herds of dairy cattle are kept in Miri and Kuching. Milk production is of no economic importance and conditions of housing, hygiene, and milk handling, unsatisfactory.

Goats, although not numerous, are found in Malay and Dayak communities. They provide a useful source of meat on special occasions but, unfortunately, do not form an integral part of the diet.

Fresh water fish farming is becoming an important activity in the countryside. The photograph shows the Land Dayak village of Kopit near Bau which possesses a particularly extensive series of fish ponds.

(S.I.S.)

Attempts are being made to persuade Dayaks and other inland peoples to plant more vegetables with a view to improving their diet as in this photograph of a garden adjoining an Iban long-house in the Lemanak river.

(S.I.S.)

A Health Assistant shows a Baram family how to wash the baby.

(S.I.S.)

Nurses receiving their diplomas after training in the Kuching General Hospital.

(S.I.S.)

An anti-Tuberculosis Campaign was initiated during the year.

(S.I.S.)

The very energetic Blind Society has raised sufficient funds to build a modern training centre for the blind. A large proportion of the total funds was raised at a very successful sale of orchids during the Jaycees Trade Fair in June.

(S.I.S.)

The various Community Development Schemes continue. The photograph shows instruction at the Long Lama Community Development Scheme.

(S.I.S.)

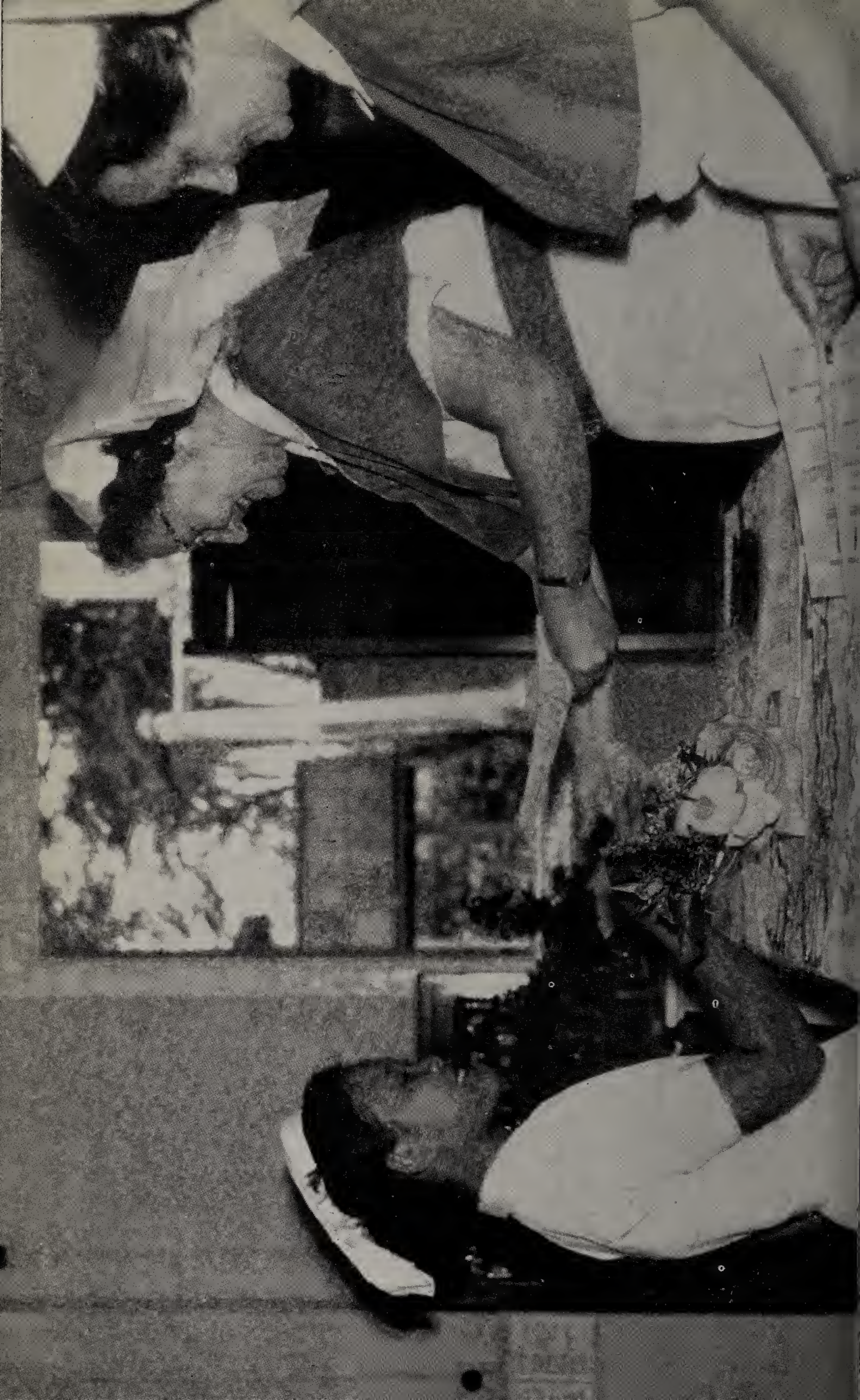
A newly trained Iban teacher receives his diploma at Batu Lintang College and proudly wears the ceremonial costume of his ancestors.

(S.I.S.)



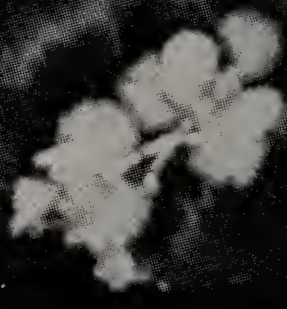


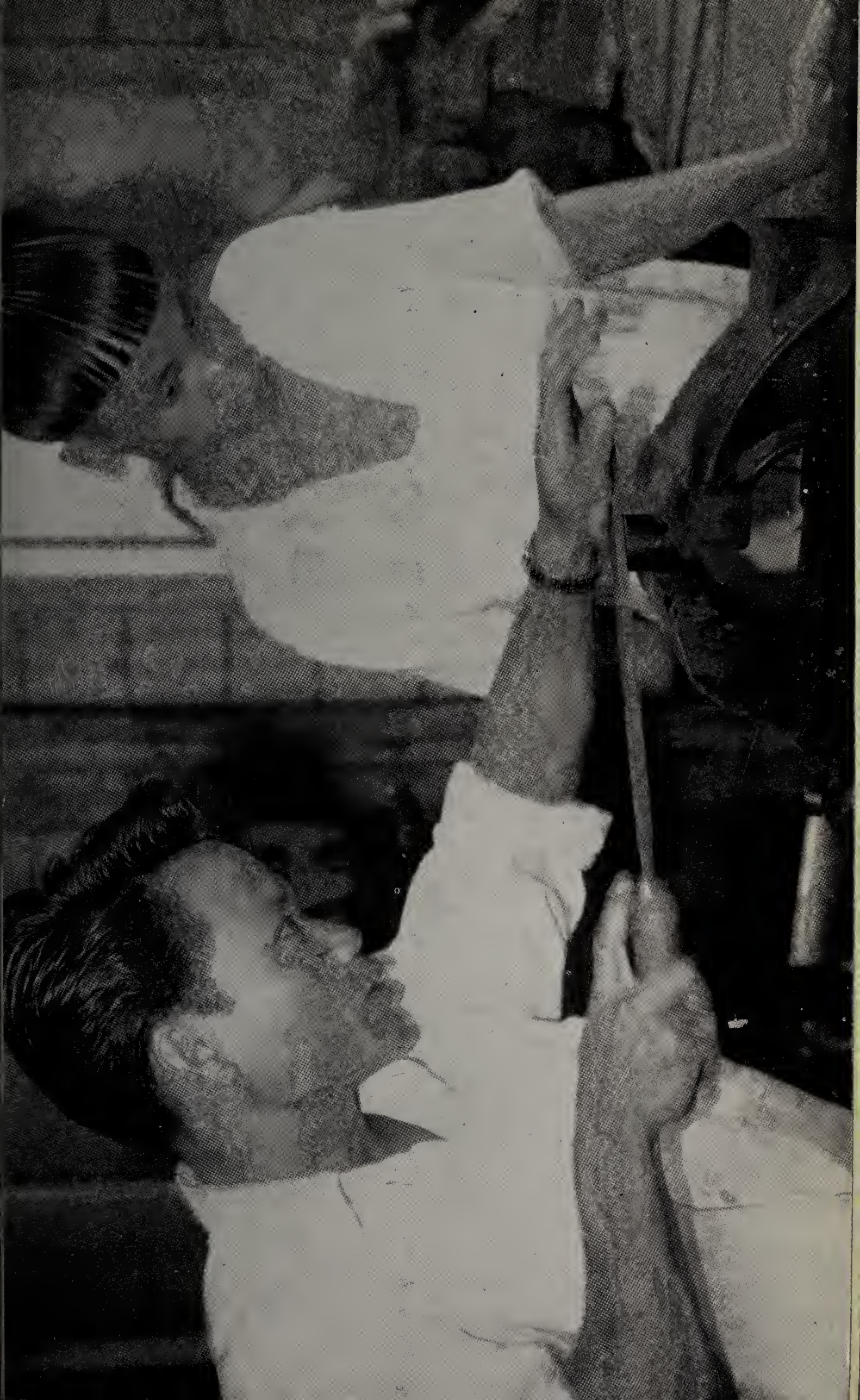






ROTHSCHILDIANA
SEEDLING
TO-MORROW
\$100 ON TUESDAY
4 each.







With the exception of the period of the north east monsoon, fish are plentiful but only readily obtainable near coastal areas or in the bigger towns. This explains why the culture of freshwater fish in interior areas, a comparatively recent innovation, is growing rapidly in importance and is of considerable nutritional significance.

DEPARTMENTAL HISTORY AND ORGANISATION

Although records are scant, a Department of Agriculture existed in Sarawak, in one form or another, for many years prior to the advent of World War II and an agricultural station (originally known as a nursery for imported economic plants) dates back to 1926. Work, however, appears to have been severely handicapped by lack of qualified staff and frequent severe retrenchments in times of financial depression. The advent of war in 1939 and the urgent need for increased rice production led to the formation in 1940 of a small but adequately trained and organised Agricultural Department. Further progress ceased, however, with the Japanese occupation in December, 1941. With the liberation in 1945, agriculture was placed under the Land and Survey portfolio and such staff as were available devoted themselves to the vital task of encouraging food production. The Department was reconstituted as a separate entity in January, 1947. The Department was established on a very modest scale and aimed initially at the creation of an adequate and efficient staff of general purpose agriculturalists to develop Sarawak's agriculture for the benefit of the Native cultivator. The agricultural programme envisaged work to encourage mixed farming, to increase rice production and to investigate crops alternative to rubber.

Up to 1955 progress was sought through the establishment of specific development areas designed to encourage mixed farming based on wet *padi* cultivation. These were guided by demonstration on nearby agricultural stations and *padi* test plots. The schemes were in large part financed by Colonial Development and Welfare Funds. Land classification and inventory were attempted in conjunction with the routine duties of field staff but the means for organised soil surveys were wanting. Considerable effort, although attended with little success, was devoted

to investigating the possibilities of mechanised smallholding cultivation and small scale pump irrigation for wet *padi*. The search for crops other than rubber continued by means of observation. Apart from a preliminary investigation of a serious disease of pepper by a consultant in 1953, and the commencement of an investigation into the disease by a team of two from the Colonial Pool of Plant Pathologists in 1955, there was no organised research. Other than the provision of very limited quantities of high-yielding planting material little was done for the rubber industry.

Attention was also paid to marine fisheries for a few years but was discontinued in 1958 because the scale of research that could be afforded did not yield worthwhile results.

With the appointment of a veterinary officer towards the end of 1953, the Department assumed triple responsibilities for Agriculture, Fisheries and Veterinary Services.

In 1954 a firm of consulting engineers commenced a survey of three large areas to assess their potential for large scale wet *padi* production; the subsequent report was discouraging in the extreme.

All in all attainment during the post-war decade was insignificant. A shortage of senior staff had become critical and by the end of 1955 a complete reappraisal was urgently needed. Appropriate action was taken in 1956 resulting in the Department being organised initially into a number of Branches namely Research, Field, Veterinary, Rubber and Freshwater Fisheries, each staffed as circumstances would permit. A five year Development Plan was drawn up applicable to the territory as a whole, as opposed to specific areas, and based upon the modern procedure involving co-ordinated programmes of investigation and extension. Simultaneously, the internal administration was streamlined and plans laid for the early appointment of a fully qualified senior officer to be in charge of each of the five Administrative Divisions of the territory thus allowing decentralisation of responsibility and ensuring the proper co-ordination of the activities of the various Branches of the Department at field level. At the same time a clear statement of aims and objectives was made in accordance with a newly defined policy, which remains unaltered,

namely—

- (a) while maintaining fertility, to develop, intensify, and diversify agriculture paying particular regard to food supplies, especially rice and all forms of animal and vegetable protein;
- (b) to increase exports of cash crops, particularly rubber, pepper, coconut and sago and improve the quality of the exported produce;
- (c) to introduce and develop new crops shown by experiment to be of economic significance;
- (d) to promote and assist in the sound agricultural development of new lands; and
- (e) to safeguard crop and livestock industries from disease by the imposition of controls regulating the entry of stock and plants into Sarawak.

On this simple foundation laid in 1956, and despite great difficulty experienced in staff recruitment, the build-up of the departmental organisation has rapidly progressed. There has been wide expansion and close integration of research, extension, veterinary services and animal husbandry, freshwater fisheries, agricultural education and economic development.

Recruitment of qualified agricultural officers has proved difficult and although the establishment has increased from six in 1956 to eleven in 1962 vacancies have been carried throughout the period and this, coupled with the demands of other Branches of the Department, has made the maintenance of the Divisional organisations at the required level difficult. It has, therefore, been necessary to call upon Assistant Agricultural Officers to take over executive control of Divisions from time to time. Against this, however, the progressive rise in general educational standards throughout the country and the Department's intensive in-service training programme has greatly raised the standard of staff at District and village level and permitted a general rise in overall efficiency.

Appendix B shows the organisation of the Department as at the end of 1962. The expansion which has taken place in the last six years may be gauged from the fact that the number of staff employed has increased three-fold.

For the future it is considered that further streamlining and reinforcement will be required. A Statistician and Botanist are scheduled to join the Research Branch in 1963, while expansion planned in agricultural education will, it is felt, justify the formation of a further branch to handle all its aspects; implementation of the Department's proposed development plans for the period 1964-1968 will involve progressive staff increases at all levels.

RESEARCH

With the appointment of an Assistant Director (Research) in 1959, the functions of the various divisions which had already come into being for specific projects were co-ordinated to cover all aspects of agriculture. In 1962 there were five divisions—soil survey, agronomy, chemistry, pathology and entomology—and their activities are reviewed below.

Successful agricultural development cannot proceed from the traditional stage to a more economic basis until an adequate knowledge of the soils of Sarawak and their potentialities is obtained. Aid was provided from Colonial Development and Welfare sources for the building of a soils laboratory and the Soils Division became functional in 1958. From the beginning the Division has played an important role in the search for new areas for development and its activities now demand the employment of three soil surveyors.

Three types of soils surveys are undertaken :—

- (a) Detailed surveys for special purposes such as agricultural stations, drainage and irrigation, *padi* and coconut planting schemes.
- (b) Reconnaissance surveys to delineate suitable agricultural land in undeveloped or under-developed areas.
- (c) Air-photo reconnaissance surveys for quick general appraisal of the agricultural potential of large undeveloped areas.

In the future more detailed surveys will be necessary in those areas which reconnaissance surveys have indicated as being suitable for rural development.

Fifty-two surveys covering nearly 20 per cent of the total area of Sarawak have been completed since 1959 and of these twenty were carried out in 1962. Government has also made use of these surveys in determining its road building programme and in 1962 six surveys were made specifically for the routing of roads in the interior.

Preliminary soil survey reports have been published for restricted circulation because of the urgency with which they were required by interested Government departments. Valuable assistance has been given to the soil surveyors by the mapping section of the Lands and Surveys Department and the Drainage and Irrigation Engineer of the Public Works Department.

The Soils Division has amassed enough fundamental information on the soils of Sarawak to enable it to publish, in 1962, again on a restricted circulation, a *First Approximation of a Classification of Sarawak Soils*. This publication has placed local soil mapping and classification on a solid working basis.

The main *padi* research station is at Paya Megok (First Division) with supporting *padi* test stations at Stumbin (near Bijat, Second Division), Rantau Panjang (Third Division), Sengah (Fourth Division) and Ukong and Bangkita (Fifth Division). An experimental programme on wet rice culture was started in 1958, in each of the five Divisions both on the Department's agricultural stations and on smallholders' land under the Rice Agronomist's supervision. This programme includes trials on fertilisers, nursery techniques, varieties (both local and imported) and methods of cultivation. Encouraging results have been obtained with the fertilising of nurseries; improved wet rice varieties in limited quantities have been made available to farmers. The imperative need to dry off the fields in the off-season has been demonstrated and there have been promising trials on off-season cropping.

Dry rice farming is the basis of the subsistence agriculture practised by a major proportion of the country's rural population and it will be some considerable time before wet rice planting can replace it, if ever. The experimental programme, therefore, also takes into consideration the needs of the dry rice farmer and aims at obtaining the same yield from a reduced acreage.

with least permanent damage to the land. The programme is again comprehensive and covers cultivation techniques, fertilisers and varieties, disease control and planted fallows. Considerable promise in the economic increase of the yield per acre has been shown for several years by using Ammophos 11:48 in pelleted form, costing only \$4 per acre. If widespread trials in progress in all Divisions in the current season confirm these earlier results, this fertiliser will be recommended for general use.

The traditional methods of pepper cultivation are proving increasingly incapable of producing a crop at an economic price. With the object of placing the industry on a sounder footing, investigations have been directed towards developing new cultural and manurial methods. An economic survey of pepper in 1958 revealed the urgent need for more economical fertilising and this was one of the projects for the study of which a pepper agronomist was recruited in 1959. Field experiments, in which many private growers throughout the country played a willing part, have already yielded much information on the manurial and cultural treatments of pepper.

The Pepper Agronomist has also collaborated closely with the Pathologist in the control of pepper foot-rot. Preventative measures recommended for this involved a modification of traditional methods of cultivation, e.g., grass should be grown between the plants and kept cut, instead of the present method of clean weeding which aids the spread of water-borne spores of the foot-rot fungus, and basal pruning of the lateral branches is recommended in order to prevent leaf infection by rain splash.

Although pepper prices are not expected to reach, in the near foreseeable future, the high levels of 1952 or even 1955 (M\$400 per picul), the future of the industry is promising if research, by the introduction of improved cultural and manurial methods, can show the way to higher yields per acre at a lower cost.

Field observations with pepper were started in 1945 at an agricultural station at Tarat but regrettably could not be followed up. Used in the past mainly for testing new introductions of plant and livestock, Tarat Experimental Station is emerging now

more as a research station in the true sense of the term. A field crop agronomist will soon be stationed there and trials are being initiated on the management and selection of pastures and fodder for cattle, on new tree crops such as cocoa and coffee and field crops including sweet potatoes, tapioca, tobacco, soya beans and ground nuts. The curing of tobacco and the processing of coffee under local conditions will also be studied.

A soils agronomist is being recruited to initiate field experiments on the recognised soil types so as to assess their relative fertility and determine suitable crops. At the same time, it is planned to open up another research station, principally for the introduction of new crops into the Fourth and Fifth Divisions. Oil palm, already under investigation in a joint pilot scheme with a subsidiary at the Commonwealth Development Corporation, is considered as probably the most important of these. Divisional agricultural stations used by the Extension Branch for demonstration and training purposes will increasingly be used for field trials.

The Chemistry Division, which originally worked almost exclusively on the mechanical and chemical analyses of soils, has now broadened its activities to serve other divisions of the Research Branch, particularly Agronomy.

Storage problems of illipe nuts (*Shorea gysbertsiana*) and the quality of pepper, as affected by processing and storage, are now demanding this Division's attention. Bearing in mind the Department's plans for a campaign on improved nutrition, the dietetic value of rice after processing and other local foodstuffs are investigations included in the 1963 programme.

Research in the field of plant pathology first began in Sarawak when a serious root disease of pepper, known as foot-rot, threatened the extinction of the industry. A biology laboratory was constructed in 1955 and two pathologists were seconded to the country; their investigations led to the discovery that the disease was caused by a species of *Phytophthora*. The aetiology of the disease has been studied and control measures have been suggested. The most recent advance in the research programme has been the discovery of the oospores which is an important step in determining the species.

A wilt of coconuts has been studied, and attributed to lightning strike. Advice has been given on the control of various minor diseases on bananas, cocoa, coconuts, citrus, *durian*, ground nuts, papaya, pepper, *rambutan*, rice, rubber, soya beans, tobacco and vegetables.

Compilation of new disease records is now making good progress.

The newest division of the Branch, Entomology, was established in 1960. A collection of local insects has been started, although the cataloguing has yet to be completed. A list is being compiled of pest species of *padi*, pepper, coconuts, rubber and minor crops, including citrus and vegetables. Investigations are proceeding on specific pest problems, notably stem-borer and other pests of rice, and the incidence of pests in pepper. A general survey has commenced on the pests of stored products with special reference to the investigation of illipe nuts.

RUBBER PLANTING SCHEME

The first rubber was exported from Sarawak in 1910 and thereafter it rapidly became the main agricultural export of the country and remains so to this day. In 1941 there were 239,557 acres under this crop, planted almost exclusively as smallholdings often on low-lying peat soils totally unsuited to rubber and comprising inherently low-yielding seedling trees.

In the immediate post-war period, and despite its obvious advantage as a smallholder's crop, rubber was considered, in the face of synthetic, a declining asset and departmental activities were concerned, but with little success, in the search of an alternative cash crop. However, in 1954, a sum of 1½ million dollars was set aside to finance a rubber planting scheme which, unfortunately, did not materialise. In 1956, with the reorganisation of the Department, it was possible to introduce a new scheme with the basic aim of establishing the greatest acreage of high-yielding rubber in the shortest possible time in accordance with accepted cultural practice.

A board of administrators representing both Government and farming interests was constituted to deal with matters of

policy and arbitration; similarly representative advisory committees were established in all Divisions. Responsibility for the scheme's execution was vested in the Director of Agriculture. Initially a target of 10,000 acres, to be planted or replanted by 1960, was set; subsidy was payable at a rate of \$200 per acre for new planting and \$450 per acre for replanting. The rules of the scheme require the maintenance of high standards including proper planting techniques, contouring where necessary, *lallang* and pest control and adherence to a specified manurial programme. To these ends subsidy is payable both in cash and in kind, the latter representing the supply of fertiliser, insecticide and lallicide. A vigorous propaganda campaign utilizing radio, the press, posters, booklets and demonstrations was initiated, in all languages, to ensure an understanding of the scheme.

In the absence of sources of supply of high-yielding planting material in Sarawak, immediate long-term plans were laid to ensure adequate supplies of both clonal seed and budwood, the former to be imported annually from Malaya for the production of clonal stumps on contract and the latter established as nurseries on agricultural stations.

By the end of 1956 a total of 708 acres had been planted. During 1957 this figure increased to 8,137 acres and to assist the poorer prospective smallholders it was decided that all land charges, other than quit rent, should be payable from Rubber Planting Scheme funds. In view of the satisfactory progress of the scheme the target acreage to be planted was increased to 40,000 acres and the value of the scheme raised to \$12 million. By the end of 1958, 21,487 acres had been planted and the scope of the planting scheme was increased to 60,000 acres. To off-set the additional cost and permit an increase in subsidy for new planting from \$200 to \$250, legislation was introduced to impose a cess of two cents per pound on all rubber exported. In a revision of the Development Plan drawn up in 1959 the target was raised again to 90,000 acres to be planted by the end of 1963 and a sum of \$21,081,000 set aside for this purpose.

As at the end of 1962 a total of 62,907 acres had been planted in the ratio 47:3 new planting to replanting. The planting of this acreage had involved the import of a total of 35.5 million

clonal seeds from Malaya and the issue of 13 million clonal stumps and 83,600 yards of budwood. A total of \$2,096,000 had been paid in cash subsidy while participants in the scheme had received 11,200 tons of fertiliser; 46,700 gallons of shell *lallang* oil; 35,000 pounds of dowpon; 1,300 pounds of Fylomac and 500 gallons of Dioldrex as payment in kind. When it is considered that with the exception of its river system Sarawak is almost completely devoid of communications, the magnitude of this achievement may be appreciated.

Participation in the scheme has demanded high standards from the cultivator and it is understandable that these have not been forthcoming from all concerned. Where a farmer fails to start planting or having planted consistently fails to achieve the standards set he is, in fairness to other participants, rejected from the scheme and loses all further benefits which might accrue to him. To date a total of 33,217 acres have been rejected from the scheme in this way leaving 61,184 acres remaining under subsidy. Applications approved for participation in the scheme in 1963, however, amounted to 17,150 acres and the chances of planting 90,000 acres of high-yielding rubber by the end of 1963 are reasonably good.

Established with the object of establishing a given acreage of high-yielding rubber, the Rubber Planting Branch of the Department has gradually assumed the additional role of an advisory service dealing with all aspects of the industry. Strenuous efforts have been made to improve the very poor quality of rubber sheet produced. Since 1959 groups of smallholders have been encouraged to erect communal processing centres, at strategic points, designed and equipped in conformity with the Department's specifications. At the close of 1962 a total of 101 such centres had been built and were producing sheet of a much higher quality than in the past. The percentage of good quality sheet is as yet slight in relation to total production but it represents a start and augurs well for the future.

It is most necessary to advertise the advantages to be derived from high-yielding rubber as well as the necessity for good maintenance, tapping and processing. A colour film depicting the

various aspects of the Rubber Planting Scheme, and three films in black and white showing specific aspects of tapping, treatment of disease, and processing were produced and released in October, 1962. These have aroused considerable interest not only in Sarawak but in other parts of the world.

The provision of planting material, in particular clonal stumps, in the ever-increasing numbers required has been a major undertaking. In the early years of the scheme this was undertaken in individual nurseries by contractors. In 1960, however, a decision was taken to centralize nursery work. By agreement with the Native farmers concerned, a site of some sixty acres, held under Native Customary Rights, was chosen at Ensengei in the First Division and planted on contract with clonal seeds. Under the agreement, when the resultant clonal seedlings are pulled, a fully planted stand of budded rubber will be handed back to the Native farmers owning the land. A further sixty acre nursery was established contiguous with the first in 1961 and another of 100 acres in 1962. Thus the farmers concerned will receive an established stand of 220 acres of high-yielding rubber, which will serve also as a source of clonal seed if required.

To overcome the cumbersome and highly expensive business of importing clonal seeds from Malaya, the Department, in 1960, commenced experimenting with the technique of green budding pioneered in North Borneo. Results have been very promising. Green budded stumps issued to farmers in 1962 have taken well; a further 80,000 green seedlings have been budded for issue in 1963 and preparations made for the budding of 250,000 for issue in 1964. It is hoped that in due course issues will be exclusively of this material.

With the difficulty of travel in Sarawak and with only a small trained staff available, the Rubber Planting Scheme of necessity had to be confined to comparatively accessible areas to allow frequent and regular advisory visits being made to farmers in the scheme. In September, 1960, however, an Assisted Rubber Planting Scheme was introduced, designed to help farmers in the more remote areas of the country, who, by virtue of their inaccessability, could not enjoy the advantages of the Rubber

Planting Scheme proper. Under this scheme farmers are invited to come to selected centres where they are taught the rudiments of land selection, preparation of land, planting and maintenance. They then return to their homes with sufficient planting hole fertiliser to treat 200 holes. Having prepared their land they are each issued with 200 clonal seedling stumps, sufficient for the planting of one acre, and a compound fertiliser for a first round application for these seedlings. Both issues of planting materials and fertilisers are free, but planting and maintenance are the responsibility of the planters themselves. The Department, however, endeavours to inspect holdings within a year of planting and those farmers who have done well are each given a further issue of 400 stumps and fertiliser thus bringing their holdings up to three acres—the smallest economic area. As and when road communications extend, those farmers who have taken advantage of the Assisted Rubber Planting Scheme can expect to be absorbed into the Rubber Planting Scheme proper. Since the inception of this scheme, 780,600 seedlings, sufficient for 3,903 acres, have been issued, in addition to 174 tons of fertiliser.

COCONUT PLANTING SCHEME

In attempting to intensify agricultural development it is immediately apparent that a crop to which considerable importance must be attached is coconuts. Not only must the acreage be extended to increase production of local nuts for home consumption, but also to meet local oil requirements and as an export in the form of copra.

Shortage of staff and the Department's other heavy commitments precluded work in this direction until the inception of a subsidised planting scheme in January, 1959. The original aim of this scheme was to plant up 10,000 acres by 1963, but this target was subsequently raised to 20,000 acres. The scheme is characterised by a high degree of administrative decentralization, and, whilst overall control is vested in the Director of Agriculture, advised by a central committee, Divisional Executive Committees are responsible for the progress of the scheme within the various Divisions.

Broadly, the objects of the scheme are to encourage two types of planting. Firstly, garden or smallholders' planting—that

is the planting of palms in blocks up to ten acres per applicant. For those wishing to participate the following are provided—

- (1) free survey fees on new land.
- (2) free planting material, or cash in lieu for those using their own material, valued at fifty cents per palm (fifty palms per acre).
- (3) four cash subsidies of \$25 per acre paid at completion of planting and at the end of the first, second and third years.

Secondly, in order to encourage as wide-scale planting for domestic needs as possible, fifteen palms per applicant are issued free for planting near dwelling houses in which case no cash subsidy is paid. Planting material is drawn almost exclusively from the First Division and a system of rigorous nursery culling (down to 40 per cent of the original nuts planted) is pursued to ensure quality.

Since 1959 a total of 1,556,670 nuts have been purchased and nurseried at 115 points throughout the country. The Marine Department provided essential assistance in helping to transport this planting material. By the end of 1962 a total 14,813 acres of subsidised and non-subsidised planting had been achieved, and this together with applications for 1963 covering approximately 8,000 acres indicates that the scheme's target has an excellent chance of being realised. The scheme embraces a total of 18,637 applicants of all races, but special mention should be made of the Malays in the Second Division who in 1962 alone planted over 3,000 acres. As the majority of planting has taken place on the coastal muck soils the need for adequate drainage has been particularly stressed. The number of applicants who have been cancelled due to low standards of maintenance has been remarkably low, and some excellent examples of well tended gardens, many of the earliest of which are already coming into bearing, can now be seen.

ASSISTANCE TO PADI PLANTERS

Wet *padi* is cultivated mainly in the coastal and delta areas and, with the exception of the far uplands where a tradition of controlled irrigation exists, methods and standards of husbandry

generally are primitive. Prior to 1958 extension work was chiefly confined to attempts to improve standards by advice and demonstration. As more trained staff became available it was possible to extend the Department's activities to more concrete forms of aid, and in mid-1958 the important Assistance to *Padi* Planters Scheme was launched. This scheme aims at encouraging the opening of new swamp areas, and increasing the productivity of those already farmed. It is applicable to areas of less than 300 acres (areas in excess of this acreage require major drainage or irrigation works and are referred to a central advisory committee on drainage and irrigation of which the Director of Agriculture is Chairman, for subsequent joint action by the Agricultural, Lands and Surveys and Public Works Departments). The scheme involves the provision of technical advice and material assistance in the form of level surveys, tools, materials for dam and water gate construction, and seed, to cover the cost of which a sum of \$10,000 is made available to each Administrative Division of the territory each year.

For such a scheme to succeed the enthusiastic co-operation of the farmers themselves is essential. The steady progress achieved (up to the end of 1962 a total of ninety schemes covering approximately 5,150 acres have been initiated) reflects the measure in which this co-operation has been forthcoming.

Junior staff trained in level surveys are now posted in all Divisions and these, together with two Agricultural Assistants who have received special training in *padi* work in Malaya, have resulted in a steady increase in acreage over the years. The position to date regarding field staff who have had the necessary technical training in this crop has been unsatisfactory; however, resulting from the Department's in-service training programme it will be possible to station one trained Agricultural Assistant in each Division by mid-1963. Whilst the areas involved are on a modest scale it is evident that with the continued enthusiasm to extend and improve their *padi* lands shown by the Native races, this scheme, together with other development schemes such as the Coconut Planting Scheme and the Rubber Planting Scheme, can go a long way to achieving more balanced and stable systems of agriculture.

ANIMAL HUSBANDRY AND VETERINARY SERVICES

In the past, livestock have played a minor role in the economy of Sarawak and until very recently acceptable forms of animal husbandry have been non-existent. Buffaloes have always existed in reasonable numbers in the extreme north of the country, where they are classed more as a social than an economic asset.

Prior to the Japanese occupation small numbers of pigs and poultry were reared near towns to supply local markets; the Native pig was (and remains) inseparable from the longhouse with which it lived in symbiosis, and indigenous poultry were universal in rural areas. There were no veterinary services and the periodic ravages of disease prevented any real form of economic livestock development. Cattle were few in number and meat requirements were imported on the hoof from neighbouring territories. A Government dairy farm existed in Kuching and livestock stations had been established at Simanggang, Kabong, Miri and Bintulu.

By the end of the war, livestock numbers had been seriously reduced, Government livestock stations had been disrupted and such animals as had survived were in poor condition. In the immediate post-war era Sarawak was considered to be climatically unsuited to the development of a livestock industry and consequently rehabilitation was given a low priority. A veterinary officer was appointed in 1953, and thereafter studies of the incidence of disease in pigs, cattle, poultry and to a lesser extent in buffaloes were commenced. The opening of veterinary clinics in Kuching in 1956 and Miri in 1960 enabled veterinary staff to intensify enquiries into animal disease and morbidity and to increase the efficiency of veterinary extension services in the field.

One of the acute and fatal diseases which had apparently affected cattle in the past was confirmed as Haemorrhagic Septicaemia. In addition two other conditions which had occurred in cattle and buffaloes, namely Protozoal conditions in the former and severe worm infestation in both, were proved to exist and be of economic importance.

Further studies into the diseases of pigs and poultry were instigated and several conditions were recognised as being the

cause of severe losses or general morbidity. Such conditions included—

- (a) In pigs— pasteurellosis, pneumonia, pigling diarrhoea, worm infestation.
- (b) In poultry— ranikhet, fowl pox, coccidiosis, fowl cholera, fowl coryza, worm infestation.

Regular meetings were held with both pig and poultry farmers. These were completely informal and resulted in clearer understanding by the farmers as to what veterinary services could offer and achieve. The farmers' co-operation, by reporting disease outbreaks early, resulted in an ever increased confidence in and demand for assistance from the Veterinary Branch. The pig and poultry industries materially benefited and were encouraged by the fact that disease could be controlled and that the survival rate of ailing animals, especially pigs and poultry, was increasing.

So far as livestock improvement is concerned, the main activities have been with pigs and cattle. The main departmental cattle herds comprising Red Sindhi/Kelantan breeds are centred on Tarat Experimental Station and the present policy aims at fifty breeding cows plus followers of Sindhi or Sindhi cross animals. Surplus bulls of good conformation are sold to interested farmers at a subsidised price of \$80.00 after being weaned. No young female cattle have been or will be available to the farming public until the target of fifty breeding animals has been reached.

A small herd of Bali cattle run at Tarat Experimental Station did not thrive due to Protozoal conditions. They have been transferred to a much more natural habitat in the Third Division since when they have prospered.

A provisional livestock census was carried out during 1957 and recording of importations of livestock commenced. The figures have subsequently been shown to have been very much on the low side but as the method of enumeration improved and better coverage given accuracy has increased. The livestock population at the end of 1962 was estimated to be 12,310 buffaloes, 10,151 cattle, 287,518 pigs and 11,371 goats.

The prophylactic treatment commenced seriously in 1955 and the numbers of animals receiving treatment have risen steadily as the following figures for the last five years indicate:—

Year	Haemorrhagic Septicaemia	Pasteurellosis (Pigs)	Ranikhet Disease	Fowl Pox
1958	65	1,379	227,792	22,987
1959	96	3,247	308,144	34,288
1960	117	8,269	347,375	34,910
1961	317	8,223	331,244	44,513
1962	458	12,340	349,718	48,617

The activities of the Veterinary Branch over the last nine years have, in addition to giving protection to small farmers against the ravages of animal disease, contributed to the large increase in the establishment and build up of pig and poultry industries in the vicinity of Sarawak's major centres of population. In all there are throughout Sarawak some ninety-eight commercial poultry farms housing in the region of 129,000 birds, almost all of which are of exotic breed, and sixty-nine commercial piggeries carrying a total of some 17,000 head, the great majority of which show an increasing percentage of improved strains introduced by the Department.

BUFFALO TRAINING AND DISTRIBUTION SCHEME

The need to extend and improve the areas of swamp *padi* has already been mentioned. One of the main drawbacks in connection with the cultivation of wet *padi* in Sarawak has been the almost complete disinterest in the use of draught animals to assist in land preparation. In consequence such buffaloes as are kept are untrained and are permitted to run wild thus making veterinary treatment almost impossible.

Inadequate cultivation with hand tools results in poor yields; the area cultivated per individual is limited; *padi* fields are not grazed down in the off-season, thereby assisting in "drying-out"; and benefits of natural manuring are lost.

The object of the scheme is to train farmers in the handling, management and working of buffaloes for the cultivation of wet *padi* and to provide them with trained working animals at a heavily subsidized price. Training courses for farmers are run on agricultural stations and *padi* test stations. Departmental herds,

however, are currently inadequate to provide animals in the numbers required and until these have been built up, buffaloes both trained and untrained, must be imported.

The scheme commenced in 1960 with the import of thirteen animals, together with experienced handlers, from North Borneo. These were placed on agricultural stations and used initially to train junior staff of the Department as well as farmers. Staffing difficulties brought progress in the scheme to a complete halt during 1961. In 1962, however, a total of fifty buffaloes were imported from North Borneo; courses for farmers have been run in all Divisions and a total of 142 farmers trained and forty-one buffaloes distributed.

The demand for training and for the supply of trained animals is much greater than the present resources of the Department can supply and in consequence priority has been accorded to farmers concerned in Assistance to Padi Planters schemes. It is hoped, however, that with the aid of funds approved under the Freedom From Hunger Campaign to import a total of 500 animals during 1963 and 1964.

LIVESTOCK PRODUCTION

The scheme which was first introduced in the 1955-1960 Revised Development Plan has as its aim the production and distribution of imported breeds of pigs to progressive farmers. Previous trials carried out by the Department had indicated that the Tamworth and the Berkshire were the breeds most suited to the conditions prevailing in the country, and concentration was therefore placed on these breeds. This policy was revised in 1961 and only the Berkshire herd was maintained. This change-over, together with a vigorous culling out of unproductive stock, resulted in a heavy reduction of the breeding herd. During 1962, however, with assistance received from the Australian Government under the Colombo Plan, fourteen pure bred Berkshire in pig gilts and four boars were imported, and steps were also taken to extend Departmental piggeries.

Production has in the past been concentrated mainly in the First Division, but as new stations develop this will be decentralised. Animals distributed to date amount to 2,511, over 90 per

cent of which were issued for breeding purposes, the remainder being culls sold off as fatteners.

The dangers of too large a proportion of pure blood among commercial herds has been realised, and a small unit of the Chinese type breed is maintained for those farmers who wish to re-introduce the excellent mothering properties of these animals.

It is realized that this scheme cannot in itself fully meet all demands. To supplement departmental efforts, therefore, a scheme for subsidised commercial piggeries under which selected farmers are given pure-bred Tamworth and middle white pigs for the production of weaners for sale, at a controlled price, to farmers who prefer these breeds. This scheme has made a useful start and plans for its future development have been laid.

FRESHWATER FISHERIES

The value of freshwater fish culture, utilizing land otherwise unsuited to productive agriculture for the construction of fish ponds, cannot be over-emphasised in a country like Sarawak, where protein deficiency is endemic in rural areas.

Work on freshwater fish culture commenced in 1952 but initially activity was concentrated in the urban Kuching area where a few Chinese fish farmers cultured imported mixed carp species by their own traditional methods, and little progress was made. The future of fisheries development came under review in 1956 and the planned development of freshwater fish culture in rural Sarawak commenced in 1957. In that year, ninety-nine new fish ponds were constructed by Malays, Land Dayaks and Chinese of the First Division. Subsequent progress is indicated by the fact that by the end of 1962 the total number of fish ponds in the territory had risen to 5,559; freshwater fish culture had spread through all five Divisions and was being undertaken by representatives of every racial group in the territory.

Hand in hand with this individual ponds have tended to grow in size and the construction of communal ponds in excess of one acre in area is gaining popularity.

Commencing with a simple organisation based upon Kuching in 1957, departmental fry breeding stations have been built up

in all Divisions and a total of 994,773 fish fry distributed, free of charge, to fish farmers, while a further total of 42,200 fry have been released in lakes, ponds, mining pools and *padi* fields. Initially the species available were limited to *Tilapia mosambica* and *Trichogaster pectoralis*. In 1960, however, the employment of improved techniques at the central fry breeding station, Kuching, permitted the successful breeding of *Cyprinus carpio*, *Osphoronemus gourami*, *Helostoma temminiki* and *Carassius auratus*, and supplies of these species have been available for distribution to farmers in ever increasing numbers. By courtesy of the Freshwater Fish Culture Research Station, Malacca, the Department has received foundation stocks of *Tilapia mosambica* of the African variety for the production of the first-cross hybrid using the African male and Malayan female *Tilapia*. Hybrid fish so produced are currently under observation in departmental ponds as are *Puntius javanicus* supplied by the Department of Fisheries, Federation of Malaya, and the Indian Major carp (*Catla catla*) provided by the Government of India. The potential of these latter two species in terms of growth rate and quality has already been proven. The ultimate value, however, will depend upon their ability to breed under Sarawak conditions. *Puntius javanicus* will breed but to date the percentage of fry obtained per batch of eggs has made distribution to the general public impracticable. There are as yet no indications that *Catla catla* will breed. In addition to the above, various indigenous species, of which *Ikan semah* is the most promising, are under trial at the Central Fry Breeding Station to assess their suitability for pond culture.

In addition to technical know-how in terms of pond construction, stocking and management, the Freshwater Fisheries Development Scheme also provides free insecticide for the destruction of natural predators prior to stocking, and lime for the correction of acidity. Where necessary, tools and equipment are provided on loan for the construction of ponds while piping and concrete for the construction of spillways and water in-takes are provided free where ponds in excess of one third of an acre are constructed by communal effort. The free issue, in 1962, of small quantities of superphosphate to selected farmers represented a start in the encouragement of a fertilizer programme in

association with freshwater fish culture. Proposals for subsidising the construction of fish ponds in excess of one third of an acre have received approval under the Freedom From Hunger Campaign.

The true value of freshwater fish culture to rural Sarawak can only be assessed in terms of production and consumption of edible fish. In this connection difficulty has been experienced in obtaining accurate yield data due, in large measure, to the natural suspicion of rural people when sampling for yield determination is suggested.

AGRICULTURAL EDUCATION

In Sarawak agricultural education is considered in the context of, firstly, staff training and, secondly, rural agricultural education—i.e., the training of farmers and their wives.

Staff Training

The low standard of education prevailing in Sarawak before and immediately after the Japanese occupation not only dictated an undue reliance upon expatriate officers but seriously limited the advantage which could be taken of facilities for the training of local men overseas. Candidates with an educational background adequate for higher education were few and showed preference for professions other than agriculture. In the immediate post-war years this was not considered a grave handicap to the work of the Department, since practical ability was considered, in the conditions then pertaining, to be of greater value than technical qualification. In 1947 and 1948 a few members of the staff undertook courses at the College of Agriculture, Serdang, Malaya. Thereafter until 1956 reliance was placed exclusively on a course of eighteen months practical and theoretical training at a Staff Training College which opened in Kuching in 1948.

Although with generally rising standards of education four candidates proceeded overseas to study for diplomas in agriculture in 1955 (only one of whom was successful), it was not until the reorganisation of the Department in 1956 that the importance of staff training received full recognition. Since 1956 eight local officers of the staff have either completed or are undergoing full degree courses, five in agriculture and one each in veterinary

science, entomology and home economics, while a further two candidates have been accepted for degree scholarships, one in agronomy and another for a course designed to suit him for employment as a soil surveyor. At the same time a total of ten members of the staff have studied or are studying for Diplomas in Agriculture at recognised agricultural colleges overseas; a further two have been accepted for diploma training and are scheduled to proceed overseas in 1963.

In the sphere of in-service training, eighty-eight members of the staff have undertaken or are undertaking *ad hoc* courses in overseas territories; seven on veterinary science, sixty-one on various aspects of the rubber industry, eight on rice agronomy, four on home economics extension, three on coconuts, three on gardening, two on agricultural extension, and one on freshwater fish culture; further courses are being arranged for the future. Degree, diploma and *ad hoc* courses overseas have been made possible under the Colombo Plan and through the help of international agencies. Scholarships have been awarded by Australia, Malaya, India, New Zealand, the Philippines and Japan and training grants have been furnished by the Asia Foundation and the Food and Agricultural Organisation.

In addition in 1961, by arrangement with the North Borneo Department, five Agricultural Assistants proceeded to North Borneo to undergo a one-year course at the School of Agriculture, Tuaran.

As regards in-service training within Sarawak, facilities include the School of Agriculture at Batu Lintang, Kuching, the Extension Training Centre at Tarat, and rubber training schools equipped to give instruction in all major aspects of the rubber industry, at Semongok, Tanjong Tahap and (scheduled to open in 1963) Senga, agricultural stations. Through these institutions every effort has been made to intensify staff training.

The eighteen months' course in general agriculture for junior field staff continued at the School of Agriculture until 1958. Thereafter emphasis was placed upon the training of staff for the newly established Extension Branch of the Department. The course of training, intended for field extension workers at village level, is co-educational and comprises twelve months' training in

basic agriculture (and home economics in the case of women) followed, where the trainee is considered suitable, by six months' training in extension theory, methods and practice at the Extension Training Centre, Tarat. To date eighty-two members of the staff, forty-three men and thirty-nine women, have completed the course in basic agriculture and of these seventy-five—thirty-seven men and thirty-eight women—have gone on to complete the course in extension theory, methods and practice. Facilities for attendance at both parts of the course are made available to limited numbers of the staff of the Department of Agriculture, North Borneo.

Since the opening of the first rubber training school in 1956 a total of 225 junior members of the staff have attended courses of two weeks' to one month's duration on general rubber planting procedure and the processing of latex. In other fields, ninety-three have received induction training in general agriculture, fifty-four have undertaken a one month's course in freshwater fish culture, two have received training in surveying and one in draftsmanship; twelve more senior members of the staff have undertaken a six weeks' course in agricultural extension at supervisory level; and special refresher courses have been given to individual members of the staff. Mention must also be made of the very considerable amount of on-the-job training given to members of the Research Branch, particularly in connection with soil survey work.

RURAL AGRICULTURAL EDUCATION

Special courses of short duration to give practical instruction to farmers have been organised at agricultural stations in all five Divisions of the territory and at rubber training schools. To date 1,714, farmers have attended courses of two weeks' duration on rubber planting, maintenance and processing, while 887 have attended courses of varying length in general agriculture including animal husbandry and buffalo handling, and a further twenty-six have attended courses on freshwater fish culture. Many of the farmers attending these courses were accompanied by their wives whom, it is believed, benefit to an equal degree. There is little doubt that these courses are having a beneficial effect, small though it may be, on Sarawak agriculture. Plans have been drawn

up, however, for more formal rural agricultural education through farm institutes and it is hoped that the first of these can open in early 1964.

An attempt at a more formal approach was initiated in 1959 when scholarships to permit attendance at the one year course in basic agriculture at the School of Agriculture were awarded to five farmers' sons. A further five scholarships were awarded in 1960 and 1961. Results, however, have been disappointing largely due to the poor academic background of holders. The award of scholarships was discontinued in 1962 as the farm institute approach is considered more satisfactory.

AGRICULTURAL EXTENSION

While it must be accepted that sound agricultural development is based upon research, nevertheless the findings of research must be brought to the farmer in a form he readily understands and this is, basically, the function of the Extension Branch.

Prior to 1958 agricultural extension took the form of providing specific services and general advice and dealt exclusively with the farmer. By 1956 it had become clear that these alone were inadequate in a country where the farmer is uneducated and highly conservative, and where communications made the maintenance of contact with him difficult. It was obvious that patient and understanding guidance were necessary if new ideas were to be adopted and traditional patterns changed.

In 1957, the Director of Agriculture undertook a first-hand study to determine how other countries in Asia attacked this problem. Resulting from this study a new extension policy was drawn up and plans for the build-up of an adequate Extension Branch formulated and approved in 1958. Although patterns followed in other countries showed considerable variation a feature common to all was the increasingly prominent role played by women in extension developments. Consequently particular care was taken to ensure that the women of Sarawak would have ample opportunity for full participation in extension activities.

Agricultural extension is defined as a process of informal education and its prime purpose was the changing of attitudes and

practices not only of the farmer but the farm family and wherever possible the farm community as a whole. Implementation of such a policy involved the establishment of the closest possible contact between the departmental staff and the rural community and to achieve this specialized training of the staff involved was required. A course of co-educational training designed for approximately equal numbers of male and female staff, and described in the section on agricultural education above, was initiated in November, 1958, and the first trained field personnel became available in early 1960. These were organised into teams comprising one man (Junior Agricultural Assistant) and one woman (Home Demonstrator) and posted to localized areas principally in the First Division. Initially each team concerns itself with no more than five villages where, after conducting a simple socio-economic survey to ascertain the extension potential in the area and the needs of the community, simple programmes are drawn up in conjunction with the people concerned, the Divisional Agricultural Officer and the Home Economics Adviser, to meet community needs and bring about overall development, backed by the entire resources of the Department and those of other departments of Government, if required. As confidence between the team and the people developed and programmes got under way it was anticipated that less supervision would be required from the teams who could then take additional villages within their orbit thus allowing the service to spread.

In early 1960 six teams were available for posting. A further seven teams became available in December of the same year and a further eight in December, 1961. Currently, staff sufficient for the formation of another ten teams are under training and will be available for field posting in March, 1963. Team activities have now spread to the Second and Third Divisions in addition to the First Division and the success of the undertaking may be gauged from the fact that demand from rural communities for extension teams simply cannot be met with existing training facilities.

Projects initiated by extension teams have been designed to bring about improvement in housing conditions, nutrition, general self-sufficiency and cash income. They have embraced such varied

undertakings as fish pond construction and freshwater fish culture, vegetable, fruit, wet *padi* and pepper cultivation; pest control and prophylactic treatment of livestock; improved nutrition through cookery demonstrations using locally produced foods, in particular vegetables; garment making, village hygiene and child welfare. In addition community projects concerned with the making of cycle tracks, building of bridges, installation of simple water supplies and the construction of pit latrines have been undertaken.

The introduction of agricultural extension in this context has not been without its difficulties. While it has proved comparatively easy to select staff for training as extension workers at village level, and to provide the training required, the same cannot be said in regard to the very necessary supervisory grades. For these training facilities must be sought overseas and the problem arises of finding trainees with the required personality, character and understanding coupled with the academic background necessary to benefit from overseas training. Although strenuous efforts have been made through the Department's in-service training scheme, properly qualified supervision of extension teams has been lacking and this has placed a considerable strain on Divisional Agricultural Officers under whose executive control the teams are placed.

The basic training of village-level extension workers is designed on as broad a level as possible, and it is only to be expected that their depth of knowledge as regards any one subject is limited. To meet this deficiency it is intended that subject matter specialists—officers who have received detailed in-service training in one particular crop or subject—will be stationed in each Division of the country. To date it has been possible to post such officers trained in rubber, freshwater fish culture, wet *padi* cultivation and veterinary work in Divisions where extension teams are working, while further personnel are currently under training with regard to pepper cultivation and pest and disease control.

Since the beginning it has been clear that extension work would progress more rapidly if assisted by some form of organisation amongst rural people. Staffing difficulties precluded progress

in this direction until 1962 when, with financial aid from the Asia Foundation, a National Organizer for Women's Institutes was appointed in the Department. It is appreciated that in other countries the movement is organised as an autonomous self-governing body. Such, however, is considered premature in Sarawak at the present time. It is considered essential that, in its formative years, the movement be directly associated with Government. By the end of 1962 the first Institutes had been formed in the First and Third Divisions; the value of these Institutes as a focus for extension work in the future cannot be over emphasised.

Concurrently an application for assistance from the United States Peace Corps in the development of an organisation amongst rural youth along the lines of the 4H Movement came to fruition and some twelve volunteers assumed duty in mid-1962. It is too soon to prognosticate; should success attend their efforts, however, another very useful avenue for the furtherance of extension objectives will have been opened.

Initial success in the development of the Branch as a whole has been such as to warrant long term planning for the future and during the latter part of 1962 the Department was fortunate in securing the services of an extension expert from the Food and Agricultural Organisation. The expert made a detailed review of progress and specific recommendations for the future as well as assisting in the formulation of a specific development plan for the Extension Branch for the period 1964-1968. Her report and overall recommendations are awaited.

PUBLICITY AND PROPAGANDA

Early attempts at the dissemination of agricultural information in printed form were abandoned, in so far as the rural population was concerned, in the face of wide spread illiteracy, and reliance placed upon personal contact. With rising standards of education and the introduction of a radio service, however, the scope for this activity broadened. Since 1956 every opportunity has been taken to acquaint the farming public with the Department's functions and services and to impart technical knowledge through press, radio, the Government Information Service, and technical leaflets and posters. A radio discussion programme

“Agricultural Forum”, in the Iban language was introduced in 1957 and has now become a regular weekly feature.

A Publicity Division of the Extension Branch, designed to publicise the activities of all branches of the Department and produce radio programmes, technical literature, film shows, film strip and colour slides series, leaflets, posters, tape recordings and press releases for the public, was established in 1958. Staffing difficulties, however, were such as to prevent the Division becoming functional until the later part of 1960. To date, however, good progress has been made. Two further radio programmes, in Malay, have been introduced and agricultural broadcasts in the Land Dayak language commenced in 1961. A total of sixty technical leaflets, couched in simple terms, have been produced, the majority in four languages, Malay, Iban Chinese and English, and distributed widely to both the public and departmental staff. A start has been made in assembling series of colour transparencies. Four series on various aspects of rubber production have been issued for the use of field officers and further series on all aspects of pepper growing, freshwater fish culture and wet *padi* cultivation are in hand. A total of 171 press releases, the majority illustrated by photographs, illustrating different aspects of the Department's work, have been issued. Exhibitions depicting the Department's work have been presented at trade fairs, regattas and other public occasions throughout the country, and agricultural shows and rubber sheet and rubber garden competitions organised. Wherever possible tape recordings of discussions with farmers are made for subsequent broadcasting. A total of twenty-five coloured posters on agricultural subjects have been made and 53,000 copies distributed for display in villages, longhouses, and public places. Towards the end of 1962 a start was made on the production of simple visual aids for the use of extension teams.

PRODUCTION AND DISTRIBUTION OF PLANTS

The Department has for many years attached considerable importance to the production and distribution of good quality planting material. Budwood of quality fruit trees has been imported, mostly from Malaya, and there has been a steady annual

increase in the numbers of budded plants both issued free and sold at what amounts to a nominal charge. The range of the material provided extends from the more economic types of fruits, such as *rambutan* and *durian*, to vegetable seeds and fodder grasses.

The demand too has steadily increased, and it cannot be claimed that it has been fully met. However, with the reorganisation of divisional stations and as newly established budwood nurseries have come into production the outlook for the future is promising.

Two other important extension aspects are connected with the scheme. Firstly, the establishment of fruit nurseries in school gardens is encouraged, the pupils being taught how to undertake the subsequent budding; and secondly communal orchards, particularly in areas where extension teams are working, have been allocated free planting material.

In 1962 Engkabang, *Shorea gysbertsiana*, seeds were for the first time nurseried on departmental stations, and a total of 9,698 seedlings were distributed.

The availability of space precludes the detailed mention of all planting material distributed under this scheme. Of particular significance, however, has been the production of quality fruit trees of which 22,946 budded *rambutans*, 5,476 budded *durians* and 8,635 citrus marcots have to date been distributed.

FARM MECHANISATION

The present level of agricultural development in this country does not lend itself to the widespread use of machinery. Nevertheless, so that the Department can keep abreast of new advances, particularly in the field of smallholders' cultivating machinery, funds have been allocated annually since 1951 to enable the Department to purchase and test under Sarawak conditions small items of machinery and equipment. Over the years these have included various horticultural tractors, of both British and Japanese origin, grass cutters, barn and small-scale earth-moving equipment and recently a Japanese rice mill which, although powered manually, may well prove useful in the Sarawak longhouse.

Water pumps for use in smallholders' rubber processing centres have also been tested and approved models are supplied, on request, where communal processing centres have been built. Payment is made in instalments by the smallholders concerned.

SERVICES TO FARMERS

Specific services which, since 1956, have been available to farmers have included:—

Pest Control. The main element is directed principally towards the control of pests in the *padi* crop. The service, which is free, provides spraying teams equipped with swing-fog machines using Dieldrex or knapsack sprayers with Agrocide dispensible powder and is geared to deal with serious outbreaks of *padi* pests at short notice. A system of supply is also in vogue which ensures that stocks of Agrocide 3 dust and Zinc Phosphide are available at strategic points in all Divisions for issue to farmers on request, to combat sporadic damage. This service has expanded annually, and is making a significant contribution towards increased *padi* production.

Irrigation and Milling Facilities. The Department has continued to operate three small pump irrigation units installed in *padi* areas in the First Division in 1951, as well as a number of *padi* mills situated in remote areas where no other milling facilities are available. Pump irrigation has failed to gain popularity and little use is made of the facilities provided by the farmers concerned. As regards rice milling, this has proved popular. To avoid conflict with commercial interests, however, every effort is made to encourage the farmers concerned to take the mills over. Two have been so transferred to date leaving eight under the control of the Department.

Tractor Services. This small service makes limited numbers of Ferguson tractors and rotary hoes available to farmers on hire at nominal rates. Lack of communications has made large scale development impracticable but the service is convenient to those farmers so placed as to be able to take advantage of it. Until 1960 the machines available were on hire for an average of almost 1,400 hours per year. Contractors concerned with the establishment of rubber nurseries, however, contributed largely to this figure. Contractors have now purchased tractors of their own and the figures for 1961 and 1962 fell accordingly to the vicinity of 250 hours.

THE SARAWAK DEVELOPMENT FINANCE CORPORATION

Since its establishment in 1958 the Sarawak Development Finance Corporation has continued to provide financial credit for agricultural undertakings and at the end of 1962 loans totalling \$289,228 had been issued. The bulk of this sum was in respect of the maintenance of high-yielding rubber gardens, but loans had also been issued in respect of pepper crops, mixed farming with fish ponds, and equipment for a sago factory.

In addition a sum amounting to \$3,401,119 has been lent in the form of short term advances to pepper exporters in connection with the bulk storage of pepper prior to export.

COLONIAL DEVELOPMENT AND WELFARE SCHEMES

Agricultural development prior to 1956, and the build up of the Research Branch of the Department since 1956, were made possible to a very large extent by Colonial Development and Welfare assistance from which source a total of \$3,253,703 has been made available for schemes under the Department's control.

In the immediate post war years a total of \$1,630,641 was allocated for development schemes involving rice and cash crop cultivation; the development of farm mechanisation and cocoa; wet *padi* surveys, the building of a staff training college and pepper disease investigations. Subsequently a further \$1,623,062 was made available. Colonial Development and Welfare funds have also financed 90 per cent of the capital cost of establishing research services, including an entomology laboratory, a field laboratory for pepper research and auxilliary buildings and equipment for rice research. This assistance has also been extended to cover 75 per cent of the recurrent costs, including personal emoluments of establishing these research services.

FORESTRY

Sarawak is a poor country in terms of most natural resources, such as minerals. But in its forests, which even today cover three-quarters of the whole country, it has an asset of great potential value. As the population of the Asia-Pacific Region increases rapidly over the next decades, and the forest resources of the Region decrease owing to the clearing that takes place all the time for agricultural development, forests and their products will

steadily increase in value. Unlike minerals, forests *under proper management* never become exhausted, but produce an annual crop of timber and other products for ever.

During the past sixteen years the efforts of the Forest Department have been concentrated on:—

- (i) setting aside an adequate area of forest, by constitution as Forest Reserve or Protected Forest, to form an adequate National Forest Estate;
- (ii) examination of the forests so set aside, including inventories of the growing stock and preparation of management plans.

As in most other countries, agriculture takes precedence over forestry, which attempts to use the soils that are unsuitable for agriculture, such as the salt-water-flooded soils of the mangrove swamps, the deep peat of the peatswamp forests of the river deltas, the leached sandy soils of the "heath" forests (known locally as *kerangas*), and the steeper slopes of the mountains.

As a rough guide it is considered that 25 per cent of the area of the country should be retained permanently under forests. The area of Forest Reserves and Protected Forests constituted to date totals 24 per cent of the area of the country and the reservation programme is nearly complete. All suitable areas of mangrove and peatswamp forest have been or are about to be reserved.

The examination of tropical forests and inventories of the growing stock are dependent to a great extent on the availability of aerial photographs. These first became available in 1948 and

Sarawak Administrative Officer at work in Matu.

(S.I.S.)

Surveyors using Prismatic compass.

(S.I.S.)

Particular attention is paid to in-Service Training in Sarawak.

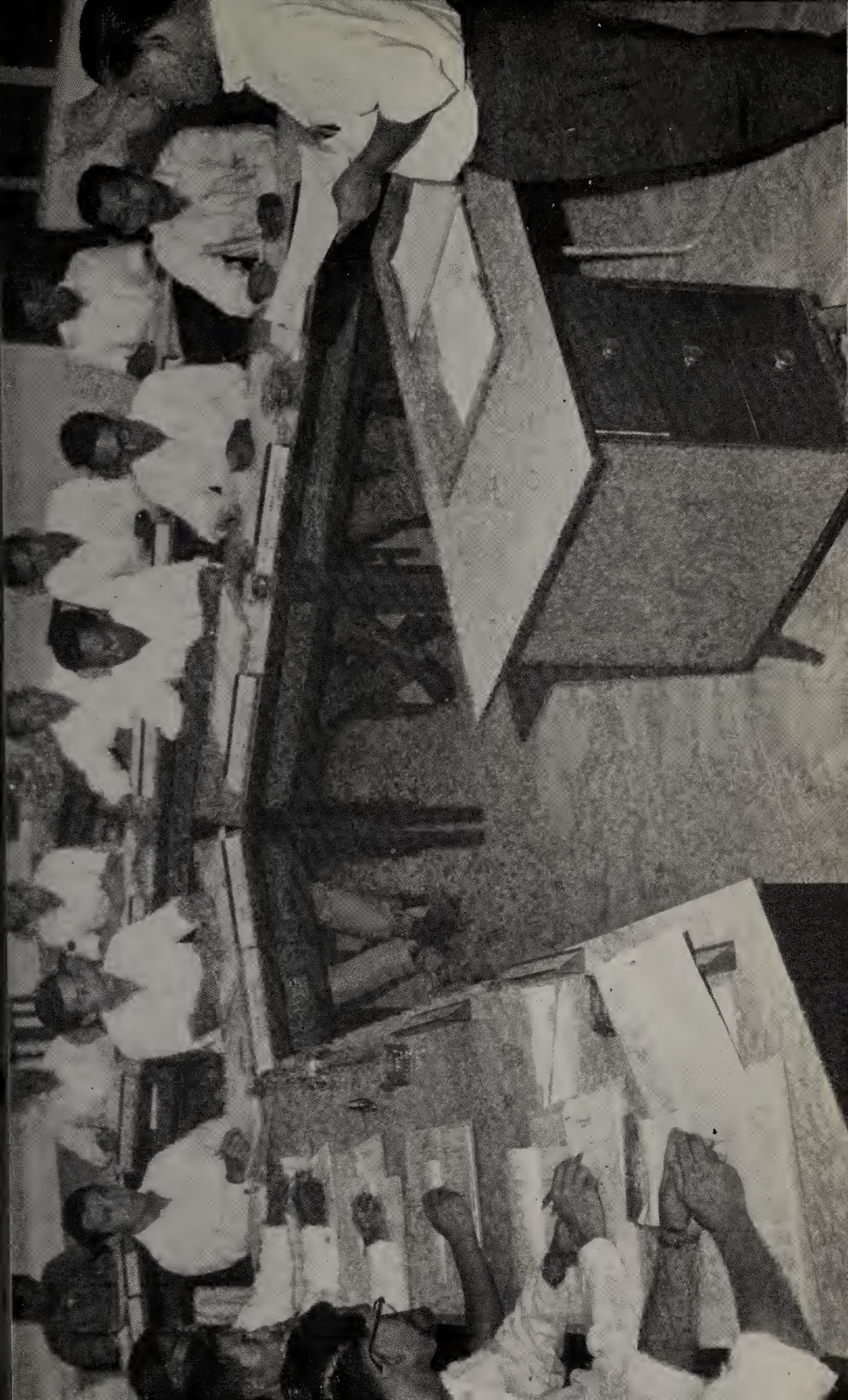
(S.I.S.)

Sarawak possesses one of the best equipped printing works in South East Asia in the Government Printing Office.

(S.I.S.)









now cover most of the country. The management of all Forest Reserves and Protected Forests is planned on a long-term sustained yield basis. For some years fellings were controlled by area and limited to 1/70th of the area of the forest, because seventy years is the period required to grow a new crop of trees. Recently the requisite staff and office facilities have been obtained to set up a Working Plans section, and the more accurate inventories now being carried out permit the annual yield to be fixed on a volume instead of on an area basis.

To grow new crops of trees to replace those being harvested Sarawak relies on the system developed in Malaya in recent years as a result of much experiment and observation. Briefly this consists in making use of the natural seedlings on the ground at the time fellings take place. As soon as the forest is opened up by fellings, the additional light stimulates the seedlings to rapid growth, and the Forest Department's task is to select from a mass of regeneration the trees that are to form the final crop. For some years experimental plots have been established in the peatswamp forests and kept under observation. A treatment suitable for this type of forest has been developed, with the assistance of a Silviculturist appointed under a Colonial Development and Welfare Scheme, and in 1962 for the first time the treatment was applied on a large scale, a total area of over 20,000 acres being treated.

For the next few years the target will be 25,000 acres, until the arrears that have accumulated in the peatswamp forests over the past ten years have been cleared off, by which time some of the hill forests will be under exploitation and require treatment. By this method new crops of trees are grown for a cost of about \$7 an acre, but the composition of the crop depends on the seedlings available on the ground and is therefore partly out of the forest officer's control; nevertheless there is no reason why a full stocking of marketable species should not be grown by this method. To grow forest crops by planting up bare land is a costly process, say \$200-300 per acre, which cannot be justified financially for crops that give no return for seventy years.

By 1962, therefore, the Forest Department had built up the management organisation required not only for the systematic

harvesting of the existing crop of timber (which was provided by nature free) on a sustained yield basis, but also to grow new crops of trees to replace the ones now being cut.

The next problem to be tackled is the better utilization of the forest crop. Before the war fellings were highly selective. The timbers used in the local market were restricted to a few well known kinds such as *belian*, *selangan batu*, *kapor* and *meranti*; the export trade was virtually non-existent (by post-war standards).

Soon after the war a timber (*ramin*) was discovered in the peatswamp forests that was ideally suited to the European market for making furniture and mouldings, and for the past sixteen years this one timber has formed the profitable basis for the country's timber export trade. For some years, however, Japan has been buying increasingly large quantities of *seraya* logs from North Borneo, and in 1962 a sudden interest (almost a "gold rush") developed on the hill forests in northern Sarawak, largely in the form of requests for licences by North Borneo firms, with the intention of exporting logs to Japan. A rapid development of the logging industry in the hill forests appears to be imminent.

Provisional export figures for 1962 are as under:—

<i>Species</i>	<i>Logs</i> tons	<i>Sawn</i> tons
Ramin	75,000	112,000
Jongkong	88,000	2,000
Meranti	22,000	3,000
Mixed Light Hardwoods	175,000	2,000

Ramin is the only timber exported in quantity as sawn lumber, and nearly half the total export goes to the United Kingdom. Exports of *Jongkong* have increased steeply in recent years, this timber having become popular in Japan and Hong Kong. The Mixed Light Hardwoods are mixed parcels of swamp logs, often including the poorer *Jongkong* and *Meranti* logs; they are sold mainly in Hong Kong where there is a big market for cheap timber.

Sarawak has other timbers but many of these, for example *Keruing*, are also produced in neighbouring countries; Malaya, Thailand and the Philippines. The development of an export trade in such timbers will depend both on Sarawak being able to compete in price and quality and also on a major factor in timber prices, shipping freights, which are largely beyond local control.

Hitherto the timber industry has been based on exporting the better logs and sawing the remainder into lumber. In the last year or two the industry has started developing new ventures, such as the veneer plant at Selalang, which produces rotary-cut veneers for the American market from *Shorea albida* logs (for which there is no ready sale in the export market), and the moulding factory in Sibu, which is producing *ramin* mouldings for the United Kingdom market. The sawmills themselves are being improved by the installation of vertical bandmills to replace the sturdy but wasteful circular saws in use hitherto, with the help and advice of an expert sawmill engineer from the Food and Agricultural Organisation. The further processing can be carried in Sarawak the more benefit will Sarawak derive from its forest products, and it is hoped that the export of logs will gradually decrease and the export of finished products increase. To discourage the export of *ramin* logs an export duty on a sliding scale, based on declared FOB values, was introduced in 1960 and remains in force.

To encourage the fuller utilization of trees available in Sarawak forests, the Government approved at the end of 1962 a scheme to establish a half million dollar Timber Research and Technical Training Depot. This depot will not only carry out standard woodworking and bending tests on local timbers, also preservation and seasoning tests, but will train local workmen in the operation and maintenance of bandmills and woodworking machinery. This type of training is a logical extension of the more elementary training in woodworking, etc., that will be given in the trade schools directed by the Department of Education.

During the past sixteen years the research branch of the Forest Department has developed from the part-time work of

one officer to an adequate research organization with several sections and an approved five-year research programme.

One of the main sections is that of Forest Botany, and in October of this year a full-time forest botanist was appointed to take charge of it. There are about 3,000 woody species of plants in Sarawak, and much work remains to be done before the classification and naming of even the timber-producing species can be considered complete in any sense. A new herbarium building was completed in 1961 to house the rapidly growing collections, to which a team of Iban tree-climbers (working under the supervision of a forest officer or of the Forest Botanist) is constantly adding new and valuable material; duplicates are also received from North Borneo and other herbaria. The long-term objective is to produce a forester's manual of the dipterocarp trees of Sarawak, and another of the non-dipterocarp trees, and eventually a forest flora. These will replace Mr. Browne's useful book on the *Forest trees of Sarawak and Brunei* which is now out of print. A subsidiary study will be of the *rotans* of Sarawak, of which there are probably at least seventy species, of which very little is known.

During the year an officer was placed on special duty to sort and examine the Department's large collection of wood specimens, and work is now in progress on the examination of the macroscopic and microscopic structure of Sarawak woods. This study is complementary to that of the Forest Botanist.

Forest policy. In 1954 the Government of Sarawak adopted and published a formal statement of its forest policy. This remains unchanged and the main points are summarised below:—

- (i) To reserve permanently for the benefit of the present and future inhabitants of the country forest land sufficient for—
 - (a) the assurance of the sound climatic and physical condition of the country; the safe-guarding of soil fertility and of supplies of water for domestic and industrial use, irrigation and general agricultural purposes; and the prevention of damage by flooding and erosion to rivers and agricultural land;
 - (b) the supply in perpetuity and at moderate prices of all forms of forest produce within the country,

required by the people for agricultural, domestic and industrial purposes under a fully-developed national economy.

- (ii) To manage the productive forests of the permanent forest estate to obtain the highest possible revenue compatible with the principle of sustained yield and the primary objects set out above.
- (iii) To promote, as far as may be practicable, the thorough and economical utilisation of forest products on land not included in the permanent forest estate, before its alienation.
- (iv) To foster, as far as may be compatible with the prior claims of local demands, a profitable export trade in forest produce.

NATIONAL PARKS

The development of the Bako National Park is now virtually complete, and the Board of Trustees therefore turned their attention to other areas that might be suitable for constitution as National Parks. Two were selected, (a) the Niah Caves area comprising the Subis limestone outcrop and adjacent forest (at present the whole area is the Subis Protected Forest) and (b) the Gunong Mulu area in northern Sarawak. The Niah Caves are famous for their bats and edible-nest swiftlets and for the archaeological work carried out in recent years by the Sarawak Museum. The Gunong Mulu (7,798 feet) area comprises about 258 square miles of some of the finest mountain scenery in Sarawak and can be reached in a day from Marudi; it is an area of exceptional botanical and faunal interest. Proposals to constitute these two areas as national parks were initiated during the year and funds for demarcation and survey provided in 1963.

MINERAL RESOURCES

For more than a century, minerals have been playing an important part in the economy of Sarawak, and they bid fair to continue to do so. Not only have they made a substantial total contribution, but the discovery and development of different minerals in succession has resulted in that contribution being spread over many years, with occasional periods of exceptional prosperity. The maximum production of antimony was in 1872, of mercury in 1877, of coal in 1898, of gold in 1907, of oil in

1929, and of bauxite in 1961. Present indications are that the bauxite reserves will not last very much longer, but 1962 saw encouraging results in off-shore exploration for oil, discovery of valuable fireclay deposits, and completion of the investigation of a coalfield. Any or all of these could produce the next upsurge in mineral production. Meanwhile, an assessment of the mode of occurrence of gold in the Bau area of west Sarawak has led to the conclusion that untapped deposits may occur there in depth, and this is to be tested by drilling. The two-year drilling programme at present envisaged will also include evaluation of known coal seams in the Bintulu area and of bauxite indications near Sematan. Most of the raw materials for cement manufacture are available, and some deposits of sand in west Sarawak have recently been shown to be of glass-making quality.

Production

Oil, bauxite, gold, bricks and tiles, lime, and stone and gravel produced during the decade 1952 to 1961 were worth more than M\$63 million, made up as follows:

Oil	\$31,089,552
Bauxite (1958 to 1961 only)	\$16,228,935
Stone and gravel	\$10,517,408
Bricks and tiles	\$ 2,806,996
Gold	\$ 1,685,330
Lime	\$ 673,054

Production in 1962, detailed in the table on page 126, was worth M\$10,102,962 (£1,178,700). As most of the oil exported by Sarawak Shell Oilfields Limited was purchased from the Brunei Shell Petroleum Company, and some of it was refined before export, the value of mineral exports, M\$227,845,375 (£26,582,000), was higher than that of production. About M\$774,000 (£90,300) was paid to the Sarawak Government in royalties, export duty, and mining rent.

Prospecting

Active prospecting continued throughout the year, and produced especially encouraging results in respect of oil and fireclay. Off-shore oil exploration wells were drilled from the mobile drilling platform *Orient Explorer* and revealed the presence of

uncommercial but promising quantities of oil off Bintulu. At the end of the year, plans were in hand for further off-shore seismic surveys and for substituting the floating platform *Side-winder* for the *Orient Explorer*, since the siting of exploration wells is restricted with the latter to areas where sea-bed conditions permit it to stand.

The Nippon Coal Mining Company continued drilling in the Silantek Coalfield with the same drills as in 1961, and with a larger drill able to reach the coal seam in the deeper parts of the field. Also, an experimental drift was driven into the seam from outcrop to test mining conditions and to obtain bulk samples of coal for industrial tests. Assessment of the results by the company was in hand at the end of the year. The company also prospected a number of fireclay deposits in the same general area.

Sematan Bauxite Limited resumed prospecting of the bauxite deposits at Bukit Gebong, near Sematan, and obtained a bulk sample of about 100 tons which was processed in their washing plant at Sematan. The product, about thirty tons, was sent to Showa Denko in Japan for testing, and smaller amounts were sent to other Japanese firms for laboratory tests. The results of the tests were still awaited at the end of the year.

Glass sand deposits at Bintulu and near Sematan were prospected during the year, and a 500-ton bulk sample from the former locality was sent to Japan for industrial tests.

Discoveries

As a result of a protracted search by the Geological Survey, involving extensive sampling of limestone occurrences and hundreds of chemical analyses, a relatively accessible deposit of at least 250,000 cubic yards of dolomite was found early in the year near the Berar tributary of the Melinau River in north Sarawak.

White clays revealed in cuttings along the Simanggang Road were identified during the year as kaolinitic fireclay, worth between M\$20 and \$130 per ton according to grade; by the end of the year, the Nippon Coal Mining Company had proved sufficient tonnages to support an export industry at the rate of

10,000 tons a month for about twenty years and, as only the country immediately alongside the road has so far been prospected for such clay, further substantial reserves are almost certainly present.

Investigations

Possible stone sources in the Sibu area, Sarawak, were investigated by the Geological Survey in 1962 at the request of the Public Works Department, and recommended pitting of a gravel deposit nearby, at Rantau Panjang, later showed about half a million cubic yards of good quality gravel and about two million of poorer quality to be present; apart from this, the nearest source of substantial quantities of stone is the Sebuyau Quarry, across the Batang Lupar. Other stone investigations were made in the Miri, Beluru, Bintulu, Kelupu, Durin and Engkilili areas.

Samples were collected from limestone hills at Beluru, Terbat, Gunong Selabor, Ulu Kakus and Bukit Sarang for determination of magnesia content as part of the continuing search for dolomite, but with discouraging results.

The Japanese Government will be providing a portable diamond drill under the Colombo Plan, together with the services of a driller and a mechanic for two years, beginning in 1963. The drilling will be directed by the Geological Survey, mainly in the search for gold in depth at Bau, in testing the area where a magnetic survey has indicated the possible presence of bauxite source rock near Sematan, and in an investigation of coal seams in the Bintulu area.

Mining law

The Mining (Amendment) Ordinance became law on 5th October. The main purpose of the amendments was to make provision for the issue of mining rights below land where surface rights are not also required. The opportunity was taken to make other revisions that had been shown by experience to be necessary. Amongst these was elimination of the necessity to investigate and record all Native rights in an area before an exclusive prospecting licence can be issued, although protection for such rights remains unchanged. General prospecting licences were also

made applicable to the whole of Sarawak, except land in which no prospecting is permitted, or which is the subject of a mining lease or exclusive licence. The Director of Geological Survey was made Chief Inspector of Mines, in place of the Director of Lands and Surveys, who retains his responsibilities in respect of land matters connected with mining, but is no longer concerned with the general supervision of mining and prospecting. Additions were also made to the provisions for underground mining, especially in respect of the underground mining of coal.

MINING AND MINERAL OCCURRENCES

Detailed accounts of deposits mined and of other mineral occurrences are given in the Annual Reports and other publications of the Geological Survey, which are listed at the end of Part III, Chapter II. Brief accounts of these, in alphabetical order, follow below.

Antimony ore was first discovered in Sarawak in 1823 and about 83,000 tons have been mined, mainly near Gunong Pangga, Jambusan, Bidi and Buan Bidi, all in the Bau District. The ore was obtained from boulders and small workings following veins in limestone. No production of antimony ore has been recorded since 1950, but interest in prospecting has revived recently, although the chances of finding large undiscovered ore-bodies appear remote.

Bauxite is mined at Sematan, a small coastal town about forty miles west of Kuching, and has been the main mineral product of Sarawak since 1959. The 633-acre area under lease is known as Munggu Belian and consists of low undulating hills underlain by andesite and surrounded by swamp and high-level alluvium. Bauxite has resulted from the weathering of the andesite and occurs on the hills in a bed as much as ten feet thick beneath a thin covering of soil and also below surrounding alluvium.

Mining by Sematan Bauxite Limited on the hills consists of the removal of overburden by bulldozer and extraction of the bauxite by excavator. In the alluvial areas, both bauxite and overburden are dug by dragline. The ore is taken in dumper trucks to a central plant for washing and screening, as about three-

quarters of the material mined consists of clay and fragments of bauxite too small to pass the buyers' specifications. During the shipping season, from March to October, the washed bauxite is loaded into 200-ton lighters and subsequently transferred into ships anchored off-shore; during the remaining months, the washed bauxite is stockpiled.

Bauxite also occurs at a number of other places in west Sarawak, the most important being Bukit Gebong and Tanjong Serabang. At Bukit Gebong, bauxite has been formed by weathering of gabbro, and prospecting has shown that about one and a half million tons of washed bauxite may be available from an area of about 665 acres. The grade, however, is poorer than that of the bauxite from Munggu Belian, and Sematan Bauxite Limited obtained and treated a bulk sample during the year for shipment to Japan to determine whether the ore is marketable at the present time. The bauxite at Tanjong Serabang has been shown to be too high in iron and low in alumina to justify development at present.

Coal is of widespread occurrence in Sarawak and was mined at Sadong for nearly sixty years before 1931. Recent investigations in the Silantek area, near the Serian to Simanggang Road, have proved substantial reserves of coking coal, and seams near Bintulu are worth detailed examination, but most of the other known seams are too thin or too remote to be of economic importance at present.

Several seams occur in the Silantek area, but only one averages more than a metre in thickness over a sufficiently large area to be economically important. Most of the coal has good coking properties, but igneous intrusions have metamorphosed parts of the seam, raising the rank of the coal but destroying its coking properties. Drilling results in 1962 were mostly less encouraging than those obtained in 1961, but plans for mining are still under active consideration. A major factor in the economics of mining this coal will be the cost of transporting it for about eighty-four miles from Silantek to Kuching, the nearest deep-water port.

Dolomite was discovered in the Melinau Gorge in north Sarawak in 1961. As a result of a search for more accessible

deposits in the same general area in early 1962, about 250,000 cubic yards were proved in a small hill near the Berar River, a tributary of the Melinau.

Fireclay in the Balai Ringin to Silantek area was first identified by the Royal Tropical Institute, Amsterdam, in 1962 when they made differential thermal analyses of five samples collected by the Soils Division of the Department of Agriculture, Sarawak. Later investigations by the Nippon Coal Mining Company have shown that some of this clay is suitable for the manufacture of refractory bricks and high-grade ceramic ware, and that a total of more than two million tons of clay of various grades occurs in nine areas adjacent to the Kuching to Simanggang Road. Little prospecting for this clay has been done away from the road, and doubtless the total reserves in the area are much larger than the amount proved so far.

Glass sand occurs north of Bintulu, near Sematan, and near Roban. The deposit at Bintulu was examined by a consulting geologist on behalf of the Sarawak Development and Finance Corporation Limited in 1962, and a bulk sample of 500 tons was exported in October to Japanese glass factories for industrial tests. The sand near Sematan has been shown to be of good quality, but it occurs in occupied land where acquisition would be costly.

Gold has probably been mined in Sarawak for several centuries. Most of the recorded production has come from the Bau goldfield, where the Borneo Company Limited produced nearly a million ounces between the introduction of the cyanide process and the closure of their plant in 1921. Since then, small-scale mining by Chinese concerns has met with varying success. During 1962, six mines were in operation throughout the year, and mining at four others was suspended for three months or more. A new lease was granted for another mine, but no production had been reported by the end of the year.

Present production is largely from eluvial clay in caves and hollows in limestone and from tailings left by earlier mining, though some mineralized shale and thin veins in limestone are also worked.

Despite the long history of mining at Bau and the large amount of gold extracted, the deepest mine reached a depth of only 200 feet, and the majority of underground workings are small adits and shallow shafts. The amount of gold in depth is still unknown, as no suitable drilling or shaft-sinking has been attempted. The Geological Survey will be obtaining a drill from Japan under the Colombo Plan in 1963, and one of its first uses will be to drill a number of trial holes at Bau in geologically favourable localities.

Iron ore occurs at various places in west Sarawak, but recent investigations have failed to prove deposits of economic importance. In fact, as west Sarawak has been so extensively prospected and travelled by people with knowledge of mining since the middle of the last century, it is unlikely that any deposit large enough to justify mining outcrops in the area. However, if plans for an aeromagnetic survey to assist in prospecting for hidden bauxite deposits were to materialise, this survey would also reveal any large bodies of iron ore, even if they do not outcrop.

Limestone is found in about fifty places in Sarawak, generally forming rugged steep-sided mountains and hills. Small amounts are quarried for roadstone and for the manufacture of lime. The demand for cement in the region appears to be sufficiently large to justify establishing a cement plant, and all the main raw materials except gypsum are available in the country; information on these materials has been published by the Geological Survey in booklet form (*Cement-making possibilities in British Borneo*, 1960).

Mercury mining and smelting were an important industry in west Sarawak during the last century, but production has been only small and intermittent since 1898. Eluvial and alluvial cinnabar deposits were worked at Tegora and Gading, and substantial quantities of primary cinnabar-bearing ore were mined at Tegora. Interest in these areas revives from time to time, and some prospecting was done in 1962.

Nickel is associated with copper and cobalt as sulphides in mineralized gabbro near Bukit Gebong in west Sarawak, but prospecting in 1962 failed to reveal any commercial ore-bodies.

Oil seepages in the Miri River area were first reported in 1882, and the Anglo-Saxon Petroleum Company obtained an exploration and development licence in 1909. The first well at Miri was successfully drilled to 805 feet in December, 1910, and yielded ninety barrels of oil a day. Development of the field was rather slow, and by 1920 production was still only about 2,200 barrels a day from about seventy wells. The introduction of rotary drilling in 1925 speeded development, and most of the oil accumulations had been found by the following year. Peak production of 5,552,200 barrels during the year was reached in 1929. The field was shut down before the Japanese invasion in 1941, but was rehabilitated after the war. Production in 1962 was 418,174 barrels.

The Miri Field is on the northern flank of a narrow anticlinal structure and is about five miles long by half a mile wide. The oil accumulations are trapped by faults and are confined to the overthrust northern flank of the structure, the producing formations being of late Miocene age and consisting of a rather mixed sequence of fine-grained sands and predominant clays.

In the course of systematic and extensive investigations by companies of the Royal Dutch/Shell Group since 1909, about thirty exploration wells have been drilled in various parts of Sarawak without success, and the search has now moved to the shallow continental shelf area of the South China Sea, where encouraging indications are reported from four wells. At the end of the year, plans were in hand for replacing the mobile drilling platform *Orient Explorer*, with which most of the off-shore drilling has been done so far, by the floating platform *Side-winder*, which will allow much more flexibility in the selection of exploration drilling sites. Additional seismic surveying is also to be undertaken off-shore in 1963.

Phosphate. Guano and rock phosphate occur in many limestone caves in Sarawak and are valuable as fertilisers for the generally poor soil of this predominantly agricultural country, but production has to be strictly controlled as the swiflets that live in most of the caves produce edible nests that play an important part in the local economy.

Other minerals. Diamonds, sapphires and silver have been produced in very small quantities in Sarawak in the past, and salt is still prepared from salt springs in some remote parts of the country for local use. Minor amounts of zinc, gypsum and talc are also known to occur.

MINERAL PRODUCTION IN 1962

<i>Mineral</i>	<i>Production</i>	<i>Remarks</i>
Oil	418,174 United States barrels (57,274 long tons)	Value M\$2,526,205; estimated royalty M\$327,026. Oil exports 28,254,583 bbls (3,764,183 long tons), value M\$223,361,367, the balance over Sarawak production being piped from Brunei. Shipments comprised both crude oil and refined products from the Lutong Refinery, which produced 2,222,623 long tons made up as follows: gasoline 335,161; gas oil 53,934; diesel fuel 1,141,506; Lutong residue 515,257; naptha 160,343; isobutane concentrate 15,736; and korosene 686.
Bauxite	225,459 long tons	Exports were 228,514 long tons, value M\$4,484,375, partly taken from stock-pile. Royalty and export duty M\$442,650, and mining rent M\$1,266.
Gold	2,885 fine ounces	Estimated value M\$351,946, mining rents M\$3,140, no royalty. Output from nine mines in Bau district.
Phosphate	<i>not available</i>	Guano and rock phosphate are extracted from the Niah Caves, Bukit Subis, Fourth Division, and small amounts from elsewhere, but production is no longer recorded.
Bricks	6,135,230 pieces	Estimated value M\$617,289. Output by districts: Kuching 4,271,030; Sibü 1,670,000; Miri 194,200.
Lime	118 long tons	Estimated value M\$15,840; made in Kuching area by three brickworks.
Stone	290,592 cubic yards	Estimated value M\$2,002,897. Royalty M\$15,383 on stone produced from private quarries.
Gravel	30,840 cubic yards	Estimated value M\$104,410.
Values in Malayan dollars, M\$1 being worth Sterling 2. 4d.		

VIII

INDUSTRIAL DEVELOPMENT IN SARAWAK

Introduction

WHILST it is true that the wealth of Sarawak largely depends on the agricultural sector and will continue to do so for some considerable time and that Government efforts are therefore directed primarily to achieving improvements in this sector, it is also the case that industrial development is directly encouraged, not only by improvements in communications and other basic facilities, but also by the provisions of the Pioneer Industries legislation and of credit facilities and so forth. The following gives an outline of the measures taken by the Sarawak Government in encouraging industrial development together with a brief review of manufacturing industries:—

Measures to promote Industrial Development

It is the policy of the Government of Sarawak to encourage industrial development by creating conditions favourable to its growth. Such measures include—

- (a) The development of communications and other basic facilities;
- (b) The enactment of the Pioneer Industries (Encouragement) Ordinance;
- (c) The provision of credit facilities;
- (d) The granting of guarantees in respect of foreign investment;
- (e) The establishment of the Borneo Free Trade Area;
- (f) The development of industrial sites; and
- (g) The improvement of statistical services.

The Development of Communications and other Basic Facilities

Sarawak is a free enterprise economy where public sector investment is concentrated on providing the basic facilities to

enable the private sector to go ahead. Development expenditure has largely been devoted to the improvement of communications and education and health services and to the raising of the productivity of the worker in the agricultural sector. Under the Sarawak Development Plan for 1959/63, 38 per cent of the total expenditure is being devoted to the improvement of communications, 11 per cent to education, 6 per cent to medical and health services and water supplies and 19 per cent to agriculture. In addition, the continuance of political stability and all that this implies in terms of law and order, of a stable currency and stability of fiscal policies is a basic governmental aim designed to facilitate industrial growth.

The Enactment of the Pioneer Industries (Encouragement) Ordinance

Under the Pioneer Industries (Encouragement) Ordinance, 1957, companies granted pioneer status receive the following privileges:—

- (i) *Customs duty*: a pioneer manufacturer is entitled to import into Sarawak free of customs duty during a period of five years articles required for the construction, alteration, reconstruction or extension of a pioneer factory; and
- (ii) *Income Tax*: a pioneer manufacturer is entitled in each of any five years during a period of eight years commencing on production day to set off against income from the manufacture of the relevant product a sum equivalent to one-fifth of the permitted capital expenditure.

(a) Procedure in making Application for Pioneer Status

The procedure in making application for pioneer status falls into two parts. Firstly, application is made to have an industry and a product declared pioneer under section 3 of the Ordinance. To qualify for pioneer status, it is necessary to satisfy the Governor in Council that—

- (i) the industry is not being conducted in Sarawak on a commercial scale or at all and there are insufficient manufacturing facilities in Sarawak to enable such industry to be conducted on a commercial scale; or

- (ii) there is a favourable prospect of further development of the industry.

Applications satisfying the above requirements are published in at least three issues of a newspaper and in the *Government Gazette*, as a notice to give any interested person the opportunity to lodge an objection. Subsequently, the Governor in Council will consider any objections received and decide whether or not to gazette the industry and product as pioneer. If it is decided to do this, the second stage is for a limited company to apply for pioneer status to be granted under section 4 of the Ordinance.

(b) Progress of the Pioneer Industries (Encouragement) Ordinance

Since the Ordinance came into force, fourteen industries and products have been declared pioneer, namely, particle board, cement, reinforced plastic products, *metal containers*, *knitted products*, *veneer*, plywood, *printed batek cloth*, *biscuits*, fully refined sago, *rubber goods and latex foam goods*, *ramin mouldings*, venetian blinds and wooden sandals. Up to 31st December, 1962, seven companies have been granted pioneer status, and the products in italics above have been or will be manufactured by them.

The Provision of Credit Facilities

The Sarawak Development Finance Corporation was established in 1958 with the object of assisting the financing of economic development in Sarawak. It is a statutory body with its own sources of finance but it has the general backing of the Sarawak Government. It has participated with the Borneo Development Corporation Limited in the establishment of an industrial estate in Kuching, but it is intended for the future that the Finance Corporation should concentrate on the needs of the agricultural sector.

The Borneo Development Corporation Limited is a wholly-owned subsidiary of the Commonwealth Development Corporation but negotiations have been concluded during 1962 for the North Borneo Government and the Sarawak Development Finance Corporation each to invest \$1¼ million in it. As already stated,

the corporation has participated with the Sarawak Development Corporation in the establishment of an industrial estate in Kuching, but it is hoped that as it develops, it will not only fulfil its twofold financial role of mobilising capital and acting as a source of capital for industrial development, but will also develop its entrepreneurial role and its technical assistance role in the industrial and commercial sectors.

The Granting of Guarantees in respect of Foreign Investments

Foreign investment in local industries designed to assist the economic development of the country is encouraged. There are regulations relating to Exchange Control practice, but there is very little in the way of restriction on the repatriation of capital or the remittance of dividends. Exchange controls have been gradually relaxed in common with most of the rest of the Sterling Area. Local participation in the equity of companies predominantly financed by foreign investors is encouraged, but there is no rule requiring a minimum percentage of local shareholding.

The Establishment of the Borneo Free Trade Area

An important step to alleviate the smallness of the domestic market for locally produced goods was the establishment of the Borneo Free Trade Area with effect from 1st January, 1962. The principal object of the Agreement is to enable the bulk of the products of the Free Trade Area to move between the member territories freely and without becoming liable to customs duties or excise simply as a result of such movement. This is achieved by exempting from inter-territorial import duties all goods whether of area origin or imported from outside the Area, except a short list of excluded goods. Where goods eligible for Area tariff treatment are subject to import duties or excise, the general principle is that the revenue so arising should accrue to the territory in which they are consumed and such revenue is handed over, where necessary, by the Government which has collected it, to the Government which is entitled to it.

All goods transferred from one territory to another within the Free Trade Area are exempt from export duties. No list of exclusions is provided here; but when goods liable to export

duty are transferred to another territory within the Free Trade Area and then re-exported outside the Area they become liable to the export duty in force in the territory of origin, which of course receives the resulting revenue. There is therefore no point in transferring such goods to the second territory in order to evade a higher export duty. But no export duty is levied when a commodity (rubber or timber are possible examples) is moved to the second territory for processing or incorporation in a manufactured product for use or consumption within the Area. The possible loss of revenue involved for one or both Governments is accepted as the price of the consequent encouragement to industry within the Area.

It is hoped that the introduction of the Free Trade Area will have some useful effects in prompting industrial development and trade between Sarawak and North Borneo by opening a wider market to producers and manufacturers. This should encourage investment, both domestic and from overseas, in the area. But the immediate benefits should not be exaggerated. The total population of the two territories is only some 1,200,000 at present and their economies are on the whole competitive rather than complementary. So far, the results have been disappointing although it was realised that the benefits would be long-term rather than short-term. It is believed that thoughts have turned to the much wider concept of Malaysia which has occupied the attention of many people during the year.

The Development of Industrial Sites

Government has taken the initiative in the development of small factory sites for industry, both directly and through the Sarawak Development Finance Corporation. In June, 1959, a scheme for industrial development at Padungan Road, Kuching, was sponsored by Government. This scheme is designed to assist persons who wish to build small factories. Crown land has been alienated at an economic rent and premium for the establishment of twenty-nine small factories. Finance for the scheme comes from the Sarawak Development Finance Corporation and the Borneo Development Corporation Limited, whilst Government has

provided funds for the construction of internal roads. A similar industrial estate is planned for Sibul.

The Improvement of Statistical Services

The inadequacy of the present industrial (and other) statistics is recognised, particularly in so far as it inhibits effective planning and encouragement of industrial growth. In accordance with the approved Statistical Programme, therefore, an industrial census will be carried out by the Central Statistical Bureau in early 1963 and its results should be available in early 1964. The results of this industrial census will provide a great deal of information which will be of use to industrialists and Government in industrial planning.

Government Policy on Private and Public Enterprises including Nationalization of Industries

Water undertakings and telecommunications are owned and managed by the Government of Sarawak. The Sarawak Electricity Supply Corporation is also wholly Government-owned. It is not the intention of the Government to nationalize private industries.

Government Controls with respect to Investment in General

(i) Registration

The establishment of limited liability companies is governed by the Companies Ordinance. Companies incorporated outside Sarawak which maintain a place of business in Sarawak are required under section 307 of the Ordinance to submit to the Registrar for registration a certified copy of the memorandum and articles of the company, a list of the directors of the company and the names and addresses of persons resident in Sarawak authorised to accept on behalf of the company services of process and any notices required to be served and to submit a copy of the annual balance sheet for registration every year.

(ii) Control of Capital and Bond Issue

Issue of capital is controlled by the Exchange Control Ordinance. No issue of capital or offer of securities for sale can be made outside Sarawak except with the permission of the Controller of Foreign Exchange under section 11 of the Ordinance.

Government Immigration Policy as it affects Foreign Investors

Government policy is to permit immigration for permanent residence only if it can be shown that the presence of the immigrant will benefit the economy of the country. Every application is dealt with individually on its merits.

In general it can be said that immigrants able and willing to invest substantial capital sums in useful new enterprises are permitted to immigrate together with managerial staff. Technical staff are permitted to enter and work in Sarawak for whatever period is necessary to enable local men to be trained to replace them. Immigration by unskilled labour is prohibited.

Holders of British passports are freely permitted to enter Sarawak for a temporary visit. In addition, no visas are required in the case of nationals of Denmark, Norway, Sweden, Italy, Holland, Switzerland, Western Germany, the United States of America, Iceland, Liechtenstein, Luxembourg, Turkey and San Marino. Visitors from all other countries must obtain visas from the nearest British Consulate or from the Immigration Departments in Singapore or Hong Kong. Visitors should be able to produce reasonable evidence of their ability both to maintain themselves while in Sarawak and to return to the place from where they commenced their journey. Applications to reside in Sarawak or to take up employment in Sarawak must be made to the Deputy Controller of Immigration, Kuching.

Brief Review of Industries in Sarawak

At present the prosperity of Sarawak is largely dependent on the production and export of primary produce and industry is still primarily concerned with (i) the processing of primary produce for export, and (ii) the manufacture of goods for domestic consumption and as a side-line for the export trade.

The industries in the first category include the refining of petroleum, sawmilling, sago and copra milling and pepper processing. These industries have existed for many years and enjoy a positive advantage as raw materials are available from local sources.

In recent years, there has been a steady expansion not only in processing, but also in the general field of manufacturing

industries producing goods for domestic consumption. These industries comprise the manufacture of alcoholic and non-alcoholic beverages; textiles including singlets, towels, printed *batek* cloth, pullovers and underwear; metal containers; biscuits; soap; roofing and flooring tiles; bricks; sanitary pipes; rubber footwear; silver and iron wear; wooden ships and barges; pottery and so forth. Many of these have sprung up recently and their producing units are often very small and have to face competition in domestic markets from similar imports from highly industrialised countries.

(i) *Petroleum*

A small refinery to treat oil from the Miri field was built in 1917 near the shore end of the recently launched sea-line at Lutong. The refinery was gradually enlarged until, in 1941, it was processing about 1,250 tons of oil a year. Rebuilding after the refinery had been damaged during the Second World War was started in 1945 and, by 1947, production was back to 1,085,000 tons; it now averages 2,350,020 tons a year and the distillation products comprise gasoline, naphtha, gas oil, two grades of diesel oil, and a waxy residue known as "Lutong residue". The feedstock for the refinery is now mainly crude oil purchased from Brunei Shell's Seria Oilfield; part of this oil is also exported crude through Lutong. Most of the crude oil goes to Singapore, Indonesia, Japan and Europe. In addition, gas oil and gasoline are produced for local consumption and fuel is provided for ships bunkering off Lutong.

(ii) *Sawmilling*

Measured in terms of employment, the sawmilling industry ranks first among the industries mentioned in this Report. There were eighty sawmills in operation during 1962 employing a total number of about 5,500 workers. They were located in the First Division (15), Second Division (4), Third Division (24), Fourth Division (28) and Fifth Division (9). The outputs of this industry for the last two years are summarised as follows:—

<i>Timber</i>	1961 Quantity ton	1962 Quantity ton
(i) Timber produced mainly for export	694,528	720,285
(ii) Timber produced for domestic market	14,364	12,450

In order to assist the sawmilling industry in its adoption of modern equipment and utilization of modern techniques, including bandsaws for the more economical conversion of logs, the services of a United Sawmill engineer have been made available by the United Nations to sawmillers in Sarawak since August, 1962.

(iii) *Veneer Manufacture*

Closely related to the development of the sawmilling industry is the manufacture of veneer which was declared in 1959 a pioneer industry under the Pioneer Industries (Encouragement) Ordinance. A factory at Selalang was in 1959 declared a pioneer manufacturer of veneer. The outputs of veneer sheets for 1960, 1961 and 1962 were as follows:—

<i>Year</i>	<i>Total Output</i>
1960	891 tons
1961	1,992 tons
1962	2,973 tons

This factory has a working force of about 280 people.

(iv) *Ramin Mouldings*

The manufacture of *ramin* mouldings for export is a new industry in Sarawak and a factory at Sibu was declared in 1961 a pioneer manufacturer in relation to its manufacture of *ramin* mouldings. The factory commenced production in July, 1961, and manufactured specially moulded slats mainly for use as window blinds in Italy where they are known as Taporelli shutters.

(v) *Sago Milling*

The sago industry is confined to the Mukah, Oya, Dalat and Matu districts of the Third Division and the Beladin, Saratok and Pusa districts of the Second Division. The area of sago in these districts is estimated at 150,000 acres and although the extraction of crude sago has been mechanised to a considerable extent, the machinery used is locally made and primitive. The actual output figures for the industry are not available, but foreign trade statistics show that the exports of sago flour for 1960, 1961 and 1962 were as follows:—

<i>Year</i>	<i>Total Export</i>
1960	19,966 tons
1961	24,409 tons
1962	31,621 tons

As a method of encouraging the production of better quality fully refined sago flour suitable for human consumption, the manufacture of fully refined sago flour was declared a pioneer industry in 1961. Up to date, no company has yet been declared a pioneer manufacturer for this product.

(vi) *Copra Milling*

This industry comprises seven mills, most of which are located in Kuching. In accordance with foreign trade statistics, the exports of crude and refined coconut oil for 1960, 1961 and 1962 were as follows:—

Year	Total Export	
	Refined	Crude
1960	44,951 pikuls	1,737 pikuls
1961	44,951 „	7,563 „
1962	30,630 „	2,535 „

Home consumption is estimated to account for about half of the output of the industry. While much is used for cooking and lighting purposes, considerable quantities of crude coconut oil are used as raw materials for the manufacture of household and washing soap, chiefly for domestic consumption. Exports of coconut oil are duty free.

(vii) *Alcoholic Beverages*

This industry comprises three licensed distilleries, two of which are located in Kuching and one in Sibü. They have been in operation since 1951. The following table shows the output in proof gallons of the distilleries for 1960, 1961 and 1962:—

Year	Gallons Produced	Gallons Released
1960	134,743	122,367
1961	118,089	72,283
1962	56,716	41,407

About 180 workers were reported to have been employed in the distilleries in 1962.

(viii) *Non-alcoholic Beverages*

This industry comprises nine factories located in Kuching (6), Sibü (2) and Miri (1), producing on average 562,960 gallons per year and employing about 200 workers.

(ix) *Textiles*

There is at present one factory established in late 1959 in Kuching for the manufacture of knitted products under the Pioneer Industries (Encouragement) Ordinance. Its range of products includes singlets, underwear, towels, and pullovers. The factory has a regular working force of fifty-three, forty-eight of whom are trained girls of various races. It produces for local markets only at present. The manufacture of printed *batek* cloth is a new industry in Sarawak. In late 1962, a company was declared a pioneer manufacturer in relation to its manufacture of printed *batek* cloth at its factory in Kuching which is still under construction. This factory is expected to commence production in July, 1963, and its annual production is estimated to be about 120,000 yards.

(x) *Metal Containers*

This industry comprises three factories established recently and employing mechanised methods for the manufacture of various kinds of metal containers. This is in response to an increased demand for these products resulting from bulk importation of kerosene oil, increased production of coconut oil and the manufacture of biscuits. The estimated output of these factories was about three million containers in 1962. The manufacture of metal containers has been declared a pioneer industry with effect from 15th June, 1959.

(xi) *Biscuits*

The manufacture of biscuits has been in existence for many years, but the machinery used is locally made and primitive and the resulting product is of comparatively poor quality. In an attempt to encourage local producers to modernise their methods of production, Government in 1961 declared the manufacture of biscuits by mechanical processes to be a pioneer industry. Subsequently, a company has been declared a pioneer manufacturer in relation to its manufacture of biscuits by mechanical processes. Their new factory, which is under construction at Tanah Puteh, Kuching, will be ready for operation by June, 1963.

(xii) *Soap Manufacture*

There are six manufacturers located in Kuching (5) and Sibu (1), producing mainly washing soap for domestic use. Their

estimated production amounts to nearly three million pounds per annum.

(xiii) *Cigarettes*

The cigarette industry was established in 1959 with one modern factory in Sibü producing approximately 100 million cigarettes per annum. The import and excise duties are so designed as to stimulate the admixture of local tobacco.

(xiv) *Rubber Footwear*

The footwear industry was established in Sarawak in 1959 and its present range of products includes slippers, sports and house shoes for the domestic market only. There are three rubber footwear factories, two in Kuching and one in Binatang.

(xv) *Roofing Tiles*

Roofing tiles have been manufactured in Sarawak since September, 1961, by only one factory in Kuching. Its current production is estimated to amount to 30,000 pieces per month. This factory also manufactures floor tiles.

(xvi) *Bricks*

There were fourteen brick factories located in Kuching (11), Sibü (2) and Miri (1). It is estimated that their annual output per annum amounts to about seven million pieces. In view of the increasing demand for bricks for building construction, some factories have been mechanised to a considerable extent and the quality of bricks has improved considerably. These factories provided employment for about 280 persons in 1962.

Changes in the Pattern of Production

Veneer, *ramin* mouldings, metal containers, cigarettes, textiles, rubber footwear, roofing and floor tiles, all of which have been mentioned above, are industries new to Sarawak.

Development planning by Government has been confined to the public sector and specific targets are not at present laid down for industries in the private sector. Industries are not required to report their targets or their output, and in consequence, no information is available as to the extent to which output has fallen sort of entrepreneurs' plans.

Although there has been some growth in the production of goods for domestic consumption as witnessed by the preponderance of such goods in the above-mentioned industries, it cannot be said that it yet constitutes more than a start in changing the pattern of production.

Composition of Industrial Investment

Statistics are not available to indicate the sources of funds for industrial investment. While it is known that foreign capital has participated substantially in a number of concerns, (notably petroleum, bauxite, biscuits, rubber footwear and sawmilling) and has come mainly from such sources as Canada, Switzerland, Australia, Japan, Hong Kong, Singapore and Indonesia, it is probable that local capital has been responsible for much of the industrial investment.

There are no statistics showing the composition of investment by industries, but so far as composition by sectors is concerned, it may be assumed that direct investment in industry is, apart from electricity and water supplies, almost wholly in the private sector. Public sector investment is concentrated on the provision of the economic infra-structure and on investment in agriculture.

IX

CO-OPERATIVE DEVELOPMENT

THE year has seen a significant change of direction in Co-operative policy and a marked alteration of emphasis. The drudgery and wasted effort of supervising small and moribund Saving Societies is being eliminated. For those Societies whose membership has dropped below ten, and there were several, the end has come. Other unenterprising Societies have been encouraged to raise their sights by expanding their business objectives and, by bringing renewed interest to bear, to increase their membership. Those small Societies who, after years of decay, have found it impossible to respond to any suggestion of expansion are in the process of being wound up.

Staff so liberated have been deployed towards the task of forming more beneficial types of Societies; beneficial to the members and beneficial, in the long run, to the economy of Sarawak. Would-be Co-operatives have been urged to form multi-purpose Societies and many Societies now in existence have been persuaded to amend their By-laws to allow the pursuit of more than one object. Common to many of the Societies' By-laws recently registered, and to those whose By-laws have been amended, may be found provision for marketing, and in some cases the processing, of members' agricultural produce. As a result of this policy the value of agricultural produce marketed through Co-operatives has increased by more than 500 per cent during the year under review.

It is here that the future of Co-operation in Sarawak would appear mainly to lie; in the marketing and processing of members' produce coupled with the provision of short-term credit in the form of crop loans.

Twenty-one new Societies were formed bringing the total of Societies on the register at the end of the year to 197. Of these

one was a straight-forward Agricultural Marketing Society, the first in Sarawak. Six were Store Societies with By-laws designed to allow the purchase and marketing of members' produce. Another Harbour Workers' Society came into being at Sibu and lower down the Rejang River, at Binatang, a new venture was brought to fruition by the formation of the first Pork Consumers' Society in Sarawak. Four Processing Societies with the object of milling *padi* were registered and the remaining eight of the new Societies were various kinds of Savings or Savings and Loan organisations.

STATISTICAL SUMMARY, 1962

Total number of Registered Societies	197
Marketing Societies	3
Credit Societies	129
Consumer Societies	35*
Other Societies	30
Total Membership	12,057
Paid Up Share Capital	\$ 530,371.00
Total Deposits	\$1,653,620.00
Total Statutory Reserve	\$ 199,275.00
Value of Produce Marketed	\$ 588,571.00
Sales in Consumer Societies	\$2,666,950.00
Loans Granted	\$ 334,828.00
Loans Repaid	\$ 291,629.00
Loans Outstanding	\$ 349,464.00

* Including twenty-two Multi-purpose Societies.

Undoubtedly the most important Society to be registered during the year was the Agricultural Marketing Society at Sarikei in the Third Division. Not only is it the first genuine Agricultural Marketing Society to be constituted in Sarawak but it is the first Society which the Sarawak Co-operative Central Bank Limited has felt able to supply with funds to be used for crop loans. Cash was also required for the purpose of making advances to members against the sale of their agricultural produce, (in this case pepper and rubber) and for the purchase of consumer goods for resale to members including, as a major item, the bulk-buying of fertilizers.

Although the Bank has, in the past, made some helpful loans, particularly in connection with the Heng Hua Co-operative Village, this is the first time that its funds have been deployed in the manner originally intended, that is to say for providing much needed short-term credit to rural Co-operatives.

Bearing in mind that the Agricultural Marketing Society has operated with great success since its formation in April, 1962, it is intended that future Co-operative effort in the rural areas shall be directed to the formation of many similar Societies. Welcome assistance for this policy will be forthcoming in 1963 when a specialist Co-operative Marketing Officer is to be appointed to the Department.

A Marketing Section will be set up when the Marketing Officer arrives in Kuching. He will be assisted by a Senior Co-operative Officer who, at the end of the year, was training in Hong Kong and, in 1963, will continue his study of Co-operative Marketing techniques in Taiwan.

Full support for the Department's policy has been received from the Co-operative Marketing Expert, Professor Jacen T. Hsieh of the International Labour Office who, having carried out a survey of Sarawak conditions over a period of twelve months, completed his task in October, 1962. His report and recommendations are expected early in 1963.

Rural Credit Expert, Dr. Pablo N. Mabbun, from the Food and Agricultural Organisation of the United Nations, who came to Sarawak in May, 1962, to study and to advise on the problems relating to rural credit has also approved the way in which the Department's policy, direction and emphasis has been changed. It is hoped that the reports of these two Experts will show how Co-operative development, especially in the field of marketing and the provision of rural credit, can be expanded and accelerated.

It is probable that both Experts will recommend that the Government should consider the necessity of making considerable funds available to the Co-operative Movement in the form of loans and, in certain cases, in the shape of grants.

The Co-operative Bank has lent \$58,000 during the year but with the requests for financial help being received from various types of Marketing Societies now in formation and the demands that will certainly be forthcoming if, and when, the land development schemes now being considered under the various 1964/68 Development Plans are to be linked with Co-operation, the Bank, if it is to play its proper part in the future development of the country, and if it is to assist the primary producer to a better way of life, will look for further financial assistance from the Government.

The Departmental training programme has been speeded up and a Senior Co-operative Officer has been appointed to control the newly created Training Section. The training of Societies' officers and Committee members has been given high priority and many have been coached in a number of rural centres. The year ended with no less than nine Land Dayaks in training at the Headquarters Office in Kuching. They have been earmarked as the Secretaries and Managers of five proposed multi-purpose Societies in the First Division. It is planned that these Societies should ultimately be joined together into a Local Co-operative Union.

Two Co-operative Officers spent three months at the Co-operative College in Kuala Lumpur, Malaya, and one Senior Co-operative Officer has gone to Hong Kong, and will later visit Taiwan, for training in Co-operative marketing techniques. One Co-operative Officer has been sent to St. Francis Xavier University, Antigonish, Nova Scotia, Canada, for a course in Co-operation combined with a study in Social Leadership.

The training of the Department's staff at Headquarters and in the outstation offices has not been neglected with the gratifying result that all staff due to pass examinations in 1962 did so. (This in spite of some disheartening failures by some of the staff in the past).

Plans to expand the Training Programme in 1963 are well in hand. Two more officers will go to Kuala Lumpur, another will go to Hong Kong for a marketing course, and yet another will go to the Co-operative College at Loughborough, England, for a full academic year of study. A course of lectures to schools and to

A feature of the year was the arrival of a large group of young American members of the Peace Corps.

(S.I.S.)

A very successful Sarawak festival was held in June. The Dragon Dance was put on by the Foochow community.

(K. L. Pang, Kuching)

Sarawak has derived great benefit from the Colombo Plan. The photograph shows the Sarawak exhibit at the Colombo Plan meeting which took place in Melbourne in November.

(Australian News and Information Bureau)

Sarawak in 1962 for the first time won the inter-territorial games with Brunei and North Borneo.

(S.I.S.)

Melanau girl at work making a hat.

(S.I.S.)

Local Government is well developed in Sarawak. The photograph shows the new Sibü Urban District Council Office under construction.

(Straits Times)

The British Council continues to provide a very useful book boxes scheme for outstation readers.

(British Council)

Libraries and Reading Rooms are maintained by several Local Government bodies. The photograph shows the Reading Room in the Sibü Urban District Council Office.

(S.I.S.)







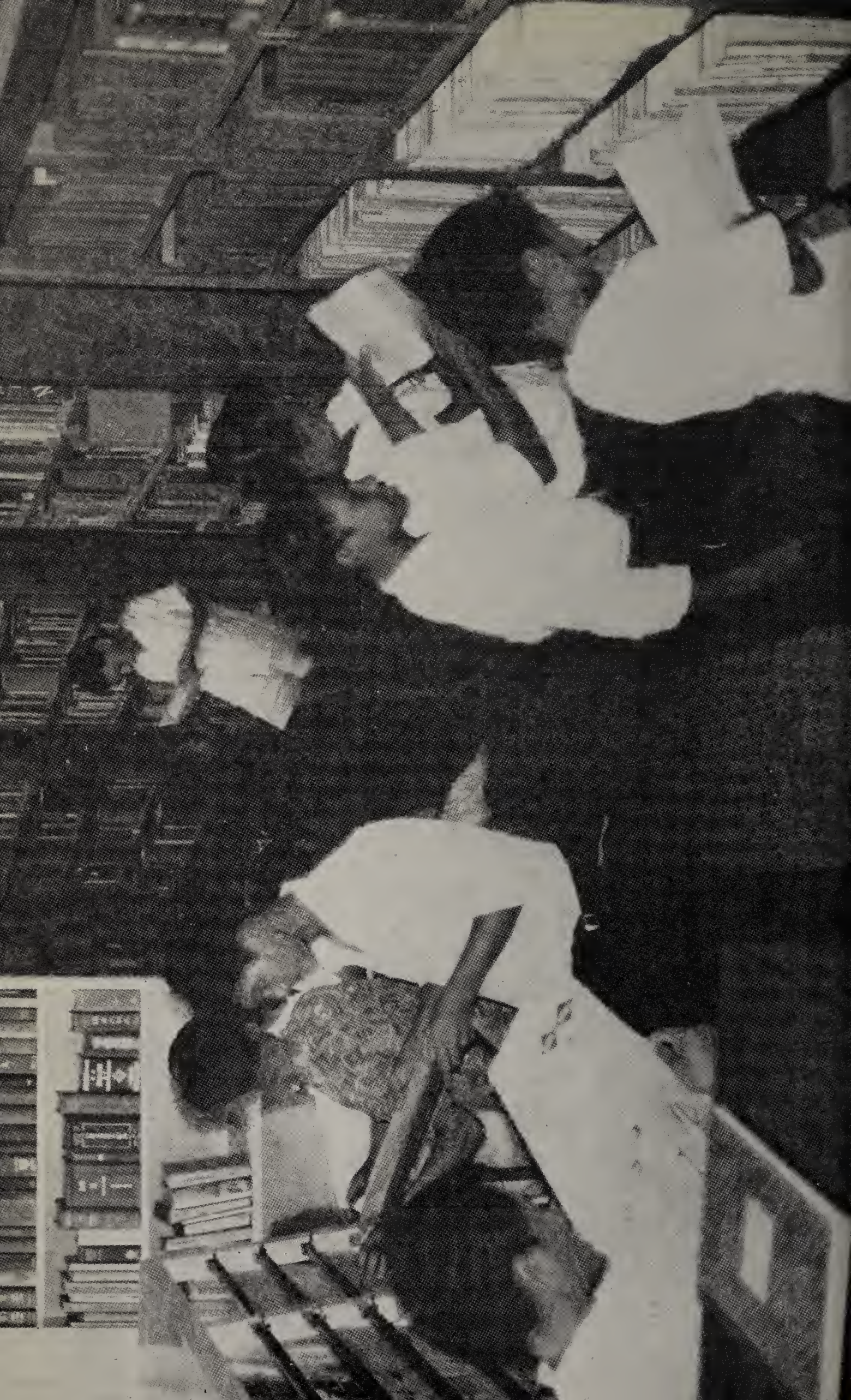
SARAWAK











certain members of other Departments who are interested in various aspects of Co-operation has also been arranged.

There are many other plans in train which it is hoped will be brought to life in the years to come. With the continued support and advice of the Department of Agriculture it is hoped that the operation of supervised agricultural credit schemes in rural areas will be possible and that rubber processing and marketing Societies will be brought into being in suitable areas.

The formation of an Audit and Statistical Section, manned by a comparatively small number of officers, is planned for 1963 and a running audit will be continually conducted. Thus the Department's work will not, in future, be completely dislocated for the first three months of every year by the posting of all field officers to audit duties.

In addition to the saving of manpower this scheme will also ensure that several round pegs will be removed from their present square holes and assigned to duties more suited to their respective abilities. They will then be able to play a full and important part in the work of the Department to which they have not, so far, been able to contribute their full value.

The only casualty to be regretted during the year was the dissolution of the Saribas Hostel Society but the effect of this set-back is to be minimised, for the Sarawak Co-operative Central Bank, supported by funds provided from the Registrar's Liquidated Societies' Fund is to take over the Hostel Society's assets. The Bank, however, will continue to provide hostel accommodation for all upcountry Co-operators who visit Kuching.

The Co-operative Central Bank is, of course, the apex Co-operative Society in Sarawak in which all, or nearly all, the other Societies have shares. The Bank, however, has never possessed suitable office premises, and though it will temporarily use the hostel's common room as a place of business it is hoped that a building appropriate to its status in Sarawak's Co-operative Movement will be built (on the land acquired from the Hostel Society) which, besides containing the necessary office accommodation, will also be provided with lecture rooms in which it is planned to start Sarawak's first Co-operative School.

Providing the Department is now drawn into all suitable development plans under consideration (especially where there may be chances of introducing marketing, processing or land development Societies), the staff of the Department, upon whom so much training has been lavished over the years, may be expected to rise to the occasion and to carry out their tasks with enthusiasm.

X

SOCIAL SERVICES

EDUCATION

Introduction: Primary and Secondary Education

TWO principal objectives in Government's educational policy have been to narrow the gap in educational standards between the Native peoples and the Chinese, and to bring the different school systems which have grown up in the past into a common national system. The year 1962 saw good progress towards the attainment of both these aims.

In 1946 the gap between the Native peoples and the Chinese was very wide. There were then two well developed school systems available to the Chinese. One was a system of primary and secondary schools which used Chinese (Mandarin) as the medium of instruction and were under the management of committees elected by local communities. The other system consisted of English-medium schools managed by Christian missions. For the Native peoples there was very little indeed. Government provided for the Malays a number of vernacular primary schools which did not prepare their pupils for any form of secondary education. For the Dayaks and other indigenous peoples there were a very few schools provided by Christian missions. As a consequence of this unequal provision, the Native peoples were able to play little part in the civil service and none in the professions. The 1947 Census revealed that 98 per cent of the largest Native group, the Sea Dayaks, were illiterate. Out of a total indigenous population of 395,417 there was not a single graduate, and only one person (a Malay) had obtained the Cambridge School Certificate.

Since 1946 a major pre-occupation of the Education Department has been to train Native teachers and to build up a system of primary schools to serve the Dayaks and Malays under the management of local authorities. Progress at first was inevitably

slow. Young Dayaks with sufficient education to be trained as teachers were very rare; for some groups they did not exist, and completely illiterate youths had to be admitted to the training college. The standard of attainment of the early products of the college was therefore limited. At the same time the local authorities were without experience in the administration of schools and were hampered by lack of finance. By 1962 the situation had radically improved. It was then possible to require Native candidates for the training college to have received at least three years of secondary education. By the end of 1961, there had been established six hundred Native primary schools, and during 1962 seventy more primary schools were opened, compared with fifty-one in the previous year, bringing the total number of local authority schools which had been established since 1946 to 513. In addition there were 112 primary schools in Native areas managed by the Church and missions.

Although many of the Native schools, as yet, only provide a four-year primary course there is a rapidly increasing number of schools providing the full six-year course from which entry can be gained to secondary schools. This increase will continue as pupils in newly opened lower primary schools reach the fourth year and as more of the higher grade teachers now being produced at the training college become available. In order to help establish these upper primary schools, all higher grade teachers, many of whom are still Chinese, are required to serve in rural areas for their first two years after leaving college. In consequence of the growth of higher primary classes, an increasing number of Native children qualify for admission to secondary schools. The number selected at the end of 1962 was 832 compared with 408 in 1960.

Because of the sparse distribution of the rural population, boarding is necessary at most higher primary schools, and indeed in many lower primary schools. Efforts have recently been made to improve the standard of accommodation and diet for boarders. In 1962 there was a considerable expansion in a scheme under which Government reimburses local authorities for part of the cost of providing supplementary rations on an approved scale for boarders. During the year some 1,500 children at twenty-nine

schools were benefiting from this scheme which involved Central Government in expenditure of about \$42,500 compared with some \$6,000 in 1961.

Partly owing to the distances which many children have to travel in order to attend school, and partly for other reasons including the charging of fees, it is not yet possible to make attendance compulsory in those areas where schools have been provided. However in 1962 regulations were made empowering local authorities to require any child living in the area to attend a specified school.

In Native schools, English is the medium of instruction, though at present many of these schools make use of the vernacular—Malay, Dayak, etc.,—in the lower primary classes to a varying extent depending on the ability of the teacher in English.

The teaching of English is greatly assisted by Schools Broadcasting, which was introduced in 1958. By 1962 there were 778 schools taking part in the scheme which, in addition to English language lessons, includes lessons (in English) on geography, health and singing. A programme for teachers is broadcast once a week, giving advice on teaching methods. There is also a "Question Time" programme, broadcast twice a week, during which verbal answers are given to some of the letters submitted by pupils asking for information on a wide variety of "general knowledge" matters. This part of the programme is very popular; besides stimulating large numbers of children to write letters in English, it serves to widen their general knowledge. Programmes in Iban and Malay, consisting of stories and reading lessons, are also broadcast for the younger children. A feature of the English language broadcasts in particular is the extent to which the teacher is required to participate in the radio lessons. Blackboard work has to be done before the lesson begins, the teacher and the pupils under his control are required to respond to instructions during the lesson, and follow-up work is required after the broadcasts. The development of schools broadcasting has been made possible by generous assistance from the Asia Foundation, the Governments of Australia and of Japan, and the New Zealand Government which ensured the initial success of the scheme by seconding experienced staff.

The increasing number of Native pupils completing the primary course had made it necessary by 1956 to plan the expansion of the secondary school system. There were already in existence a number of English-medium secondary schools, managed by Church and missions, including some of the most prominent schools in the country. These schools have an excellent record and though serving mainly the Chinese population include a proportion of Native pupils. However, most such mission secondary schools are situated in urban areas and have limited boarding accommodation. For these and other reasons it was decided that the expansion of the secondary school system should be through the opening of English-medium schools under Government management, designed to provide boarding accommodation for Native pupils but admitting also pupils from Chinese primary schools who would receive a year's intensive English in a "transition" class. By 1961 five of these schools had been opened.

In 1962 three more were opened, at Bau, Saratok and Limbang and preparations were in hand to complete the present programme by opening two more, at Bintulu and Marudi, in 1963. An indication of the growth of secondary education among the Native races is the increasing number of Native candidates obtaining the Sarawak Junior Secondary Certificate—283 in 1962 compared with 181 in 1960. Fifty-two out of 100 Native candidates were successful in the 1962 Cambridge Overseas School Certificate examination compared with twenty-four out of forty-one in 1960.

In spite of this progress there continues to be a wide gap in educational standards between the Native peoples and the Chinese. Owing to the fact that education has only recently been provided for the Native races, the difference is especially marked in the senior sections of secondary schools. The 100 Native candidates for the Cambridge School Certificate in 1962 compare with 393 Chinese and other non-Native candidates. (In addition there are large numbers of Chinese secondary pupils in Chinese-medium secondary schools, taking an equivalent examination). For the Cambridge Higher School Certificate examination in 1962, out of fifty-nine candidates, only six were from the Native races. In consequence candidates who qualify for

scholarships to overseas universities and colleges are still predominantly Chinese.

The second main objective in educational policy has been to bring the different school systems which have grown up in the past into a common national system. An important step in this direction was the introduction in 1956 of a grant code which put all aided schools on the same financial basis. Under this system, essential recurrent expenditure is met by the combination of grants-in-aid and school fees at prescribed rates. (There is a scheme for remission of fees in needy cases). For approved capital projects, Government may pay a percentage grant. There is a unified salary scale for all teachers in aided schools and a provident fund to help teachers on retirement.

Although financial parity between the different types of school has thus been effected, there remains a very noticeable and unfortunate cleavage between the Chinese schools and all other schools. The use of Mandarin as the medium limits Chinese schools to pupils of the Chinese race, and the low standard of English attained in the schools results in very few of their products being eligible for the public services or for training overseas. Worse still, it makes it difficult for the products of Chinese schools even to converse with or understand their fellow citizens of the indigenous races. In fact, the products of the Chinese schools have a distinct character, and do not mix easily with those who have been educated in other schools. The cleavage between the Chinese schools and all other schools is especially marked at the secondary stage.

In 1961, therefore, the managements of Chinese-medium aided secondary schools were asked to prepare programmes for the gradual conversion of the schools to the use of English as the medium of instruction, in order to permit pupils of all races to study together in these schools. Eleven out of sixteen aided Chinese-medium secondary schools accepted Government's proposals and in 1962 a few of them began to put into effect their programmes, in advance of the required schedule, by admitting a "transition class" in lieu of a Chinese-medium Form One. Five previously aided Chinese schools, which had signified their unwillingness to convert, ceased to be aided from April 1st, 1962.

At the end of the year the largest of these schools was dissolved, to be replaced by a new school which would convert to the English medium.

It is clear from the number of English-medium unaided secondary schools which have been opened in recent years that the majority of Chinese in Sarawak recognise the advantages of using English as the medium. These unaided schools have been established in urban areas partly to cater for pupils not selected for Government or aided schools, and partly to provide for pupils from Chinese-medium secondary schools who wish to repeat their secondary education in the English medium. Eight such unaided secondary schools were opened by private committees in 1962.

A further major step towards the unification of the school system was taken in 1962 by the preparation of a common curriculum and syllabuses for all junior secondary schools. This work was undertaken by a team of three experienced teachers, provided by New Zealand under the Colombo Plan, who worked in close co-operation with the staffs of secondary schools. In-service courses were held at different centres throughout the country to acquaint teachers with the new syllabuses. Extensive teaching notes and lists of recommended text-books were distributed to schools. Some text-books specifically based on the new syllabuses were in course of preparation.

The Chinese schools present special problems, some of them of a political nature. In the early post-war years the curriculum in these schools was heavily biased towards China. Since then the curriculum and syllabuses have been gradually brought into line with those in other Sarawak schools. A weakness in these schools has been the inadequate control over pupils exercised by staff and management, resulting from time to time in serious disorders. In recent years these schools have been brought under better control but there are still some where the tone and discipline give cause for anxiety. In some Chinese schools there have also been signs of subversive activity aimed at indoctrinating and training pupils on communist lines. When these activities are brought to light, suitable action is taken, but communist influence is at work on pupils outside the classroom, in ways that are difficult to detect and deal with. In 1962 it became

evident that the managing committees of some Chinese schools were no longer representative of different sections of the local community, but were composed of active members of a political party who appeared to hope that by controlling the school they would strengthen their influence in the area. If this situation continues it may become necessary to consider radical changes in the way these schools are managed.

Teacher Training

The training college at Batu Lintang, near Kuching, opened in 1948 in re-conditioned wooden huts which had been used as an internment camp during the Japanese occupation. In the first year, fifty-six students were admitted for training; many of them had received only four years of primary education, and some of them less. Since 1948 the college has grown until it now occupies fine modern buildings and has an enrolment of 300 residential students. All instruction is in the English medium. There are two courses for general teachers; one for those with three years secondary education, who will teach in primary schools, and one for students with the Cambridge Overseas School Certificate, some of whom will teach in junior secondary schools. In addition, there are courses for teachers who will specialise in Woodwork/Metalwork and Domestic Science and as teachers of English in Chinese primary schools. The college has been successful in producing teachers with a sense of vocation and a desire to serve their country. It maintains an excellent spirit of co-operation and friendship between students of different racial groups. The college is still heavily dependent on expatriate staff and is likely to remain so for some years until there are Sarawak teachers with enough experience to become teacher-trainers.

In 1957 a start was made with the training of teachers for Chinese-medium schools. As the accommodation at Batu Lintang was insufficient to cope with this group, a new training college was opened near Sibu, in the Third Division. This college has an enrolment of one hundred students; as at Batu Lintang all students are residential and the course lasts for two years. Mandarin is the medium of instruction for most subjects but English is also used. The college has quickly adapted itself to changing needs and now trains teachers capable of teaching transition classes

and junior secondary forms in the medium of English at "converting" Chinese schools.

Technical and Commercial Education

Technical Education, which began with the opening of a Nautical School in Kuching in 1959, has now expanded to include a Commercial Institute, a Trade School and also some part-time technical classes which may form the nucleus of a Technical Institute.

Most of the crews, masters and engine drivers, of local trade, Government and commercial vessels centred in Kuching have now been trained up to the minimum requirements of the Shipping Ordinance and the Nautical School this year moved to Sibü. The Commercial Institute has continued to expand and in 1962 had 147 part-time and forty-eight full-time students studying shorthand, typewriting, book-keeping, etc. Technical classes continue to provide in-service training for technicians in various Government departments in Kuching.

A Trade School has now been established, at present in temporary premises, providing a 2½-year course in carpentry and joinery for twelve trainees of junior secondary standard. Further courses in mechanical engineering, workshop practice and electrical installation are planned for 1963 when work will also start on the erection of permanent buildings for the Trade School. It is hoped that these buildings will also house the Commercial Institute and a possible Technical Institute.

Overseas Education

There is no university in Sarawak. Scholarships for further education and training overseas are awarded by the Government of Sarawak and under schemes promoted by the United Kingdom, the Colombo Plan Governments and other organisations. At the end of 1962, 246 students were studying overseas with the aid of scholarships.

Adult Education

Adult education is organised by the Sarawak Council for Adult Education, which receives grants from the Government and some other bodies. Classes, mainly of an academic nature,

are popular in the main towns but are difficult to organise in rural areas.

Libraries

There are public libraries in Sibul, Miri and Simanggang, and twenty-five service points at smaller places throughout the country, under the management of District Councils.

These local libraries receive various services, including supplies of books on bulk loan, training facilities for staff and advice and supervision, from the Sarawak Central Library in Kuching. This library was established by the British Council in 1950 but since 1958 has been administered by the Education Department. Beginning with a collection of 8,000 books in 1951, it now contains more than 40,000 volumes which include books in Malay and Chinese. During 1962 increasing use was made of all library services, especially by students. Central Library issues in 1962 were 93,331 compared with 9,364 in 1951, and the present membership is 4,895 compared with 703 in 1951.

With the growth of education in rural areas and the increased interest in books stimulated by the Borneo Literature Bureau there is likely to be a demand in the coming years for a large expansion of library services especially in rural areas.

British Council

The British Council continued to give assistance in the field of education through film, record, book box and other services. The Teachers' Book Box Scheme has expanded in rural primary schools to the extent that there is now one box per school—over 500 in all. During the year, regular film shows, some 200, were given in Kuching, and a large number of films loaned to outstations. Basic school libraries were presented throughout the country to secondary schools where library services are not readily accessible, and presentations of books and periodicals to the central and outstation libraries continued.

Book, art, photographic and other exhibitions were held throughout the year in the Council centre in Kuching. British Council "Visitorships" were awarded to some sixteen Sarawakians, including a three-month course on Local Government for four

Councillors. A course for teachers of English was held in Sibu, with Mr. David Hicks, an English Language specialist from the British Council in Malaya, acting as Director of Studies.

Overseas Aid

The progress made since 1946 would not have been possible without valuable assistance received from overseas. In addition to substantial grants from Britain under the Colonial Development and Welfare Scheme, and gifts of equipment from Commonwealth territories and from the Asia Foundation, Sarawak has benefited by the assistance of many men and women, provided under the various schemes of aid, who have been employed in teaching, teacher-training, supervision, schools broadcasting, and other educational work. The number of such persons serving in Sarawak at the end of 1962, under various schemes, was as follows: Colombo Plan, 31; Canadian University Service Overseas, 4; Voluntary Service Overseas, 11; Peace Corps, 8; other schemes, 3. It is greatly to be hoped that such aid will continue to be available in future.

The Future

While much has been achieved during the last sixteen years, a great deal remains to be done before the country can be said to have an adequate educational system. But there are good reasons for believing that the next five years will show continued progress. Local authorities are preparing plans for a steady expansion of primary education throughout the country and it is expected that by 1968 there will be a place in Primary One for almost every normal child who has attained the age of six. It is estimated that teachers to staff this expansion will be available if plans are realised for a further development of secondary education and the provision of an additional teacher training college. Another twenty secondary schools are likely to be needed within the next five or six years to cater for the increasing number of children completing the primary course; assistance from overseas will be needed to staff these schools until Sarawak is able to produce its own graduate teachers in sufficient numbers. Other plans for the future include trial schemes of providing secondary education in rural areas for primary school leavers who do not reach the standard required for admission to the existing

academic type of secondary schools. There are also plans for an expansion of technical and vocational training and the development of libraries throughout the country. At present little has been done in the field of adult education or to provide literacy schemes for adults. These are tasks which it is hoped to tackle during the next five years.

PUBLIC HEALTH

General

The sixteen years which have elapsed since the return to Civil Government on the 15th April, 1946, following the Japanese occupation of Sarawak, have seen a remarkable expansion and reorganisation of the Medical and Health Services of the country. In 1947, the first full year of operation after the take-over from the British Military Administration, the senior staff of the Department consisted of a Director, three Medical Officers, two Assistant Medical Officers and one Matron. At the end of 1962, the senior staff establishment had increased to a Director, Deputy Director, Assistant Director, six Specialists, twenty-five Medical Officers, a Principal Matron, two Matrons, two Sister Tutors, three Health Sisters, twenty-two Nursing Sisters and seven Superintendents. In 1947, the two Government hospitals at Kuching and Sibu, and the twenty-two dispensaries in the country were staffed by ninety-three dressers and twenty-five nurses. By December, 1962, the number of available nurses, hospital assistants and other auxiliary nursing and health staff, had risen to 530, in grades ranging from assistant nursing sisters, to student nurses, midwives and assistant nurses and health visitors. The only hospital technicians available in 1947 were five laboratory technicians. By 1962, the number of technicians had increased to eighty, including X-ray technicians, laboratory technicians and dispensary staff.

The total approved establishment of the Department during 1947 was 204. By 1962, this number had increased to 1,036 established personnel, 501 on non-establishment terms, and a further 374 engaged in the Malaria Eradication Project and the Tuberculosis Control Project under the Development section of the annual estimates, that is a grand total of just under 2,000 personnel, or approximately a 1,000 per cent increase in the 15-year period under review.

Up to 1959, shortage of medical staff made it necessary for much of the administrative work of the Department to be centralised in Medical Headquarters. Since then, however, with the increase in work, and the availability of more senior staff, it has been possible to reorganise and decentralise the departmental work and duties to a considerable extent. Each of the five Divisions now has its own Divisional Medical Officer, who is in administrative control of all the medical facilities in the Division. Regular Divisional Medical Officers' Conferences are held in Kuching each year, at which matters of departmental policy are discussed. The staff attached to the Divisional Headquarters is gradually being built up, and the aim is eventually to provide each with a Divisional Health Sister, Health Inspector and Rural Supervisor responsible to the Divisional Medical Officer for the supervision of the various preventive and curative aspects of the Medical and Health work in his Division. This Divisional reorganisation has led to a considerable reorganisation of the work at headquarters. With the appointment of a Principal Matron, and an Assistant Director (Health), all matters pertaining to the nursing staff have now become the responsibility of the former, while the latter is in charge of all health and preventive matters, including the two major projects in hand at the end of 1962, namely the Sarawak Malaria Eradication Project and the Tuberculosis Control Project.

There has, in addition, been a separation of the more specialised departmental services into more clearly-defined sections. There is now in existence, a pathological laboratory section, a dental section, a medical stores section, a mental health section, and a leprosy treatment and control section, all of which are directly responsible to headquarters.

Training

The training of local staff was limited in 1947 to the training of a few nurses and hospital assistants. The main difficulty at that time was to find recruits with the requisite educational qualifications, since education had virtually ceased in Sarawak during the Japanese occupation. Since then, there has been a steady improvement in the situation. In 1949, the first two nurses passed their final qualifying examination, after a systematic

course of training, and thus became the first to achieve trained nurse status by formal examination of a standard comparable to that in other colonies. By 1960, girls with a satisfactory standard of education were coming forward for training in adequate numbers, and it was consequently decided to discontinue the training of male nurses, as such. Instead, during 1961 and 1962, special training was given to existing male staff in the diagnosis and treatment of the common diseases of the country in order to fit them more adequately for their duties in outstation dispensaries. The first course was successfully completed at a new training centre in Miri in August, 1962, and ten hospital assistants passed their final qualifying examination before proceeding to the Rajah Charles Brooke Memorial Hospital, Kuching, for a two-month course of leprosy training in the new British Leprosy Relief Association training centre there. They have now been posted to dispensaries.

By the end of 1962, there were 229 trained nurses and hospital assistants on the establishment, and forty-six student nurses were in training. There is now an annual intake of about thirty to forty new student nurses each year. In addition, mental nurses and hospital assistants receive training at the Sarawak Mental Hospital where there were thirteen trained staff and nine students in training at the end of 1962.

Technicians for the laboratory, the X-ray services, and the dispensaries, are also trained in Kuching, at the headquarters of their respective sections.

Overseas training of staff in the Department, and of scholarship students destined eventually to join the Department, increases each year. In the four-year period 1959-1962, fifty-eight members of the staff returned to duty having completed courses of training overseas ranging from post-graduate medical courses for doctors to practical courses for hospital assistants in operating theatre techniques, and in a wide variety of other academic and practical subjects. In addition, there were a further thirty-three Government sponsored students and eleven serving officers undergoing training

in medical and para-medical subjects at the end of 1962 as shown in the following table:—

Course	United Kingdom	Malaya and Singapore	Colombo Plan Countries	Total
Medicine	1	2	17	20
Dentistry	—	2	1	3
Pharmacy	—	—	1	1
Dental Nursing	—	—	8	8
General Nursing	4	—	1	5
Mental Nursing	1	—	—	1
Physiotherapy	—	—	1	1
Dental Mechanics	—	1	—	1
Social Welfare	—	2	—	2
Leprosy-Physiotherapy	—	—	1	1
Radiography	—	—	1	1
Total	6	7	31	44

Endemic and Epidemic Diseases

Considerable advances have been made during the past sixteen years in the control of the common endemic and epidemic diseases of Sarawak.

Yaws which was described in the 1947 *Annual Report* of the Department as “Probably one of the most important diseases in the country”, with a total of 15,136 cases recorded as having been treated that year has, in the interval, been reduced to negligible proportions as a result of mass campaigns carried out in the mid-fifties.

Malaria, the incidence of which had increased rapidly and alarmingly during the war years, had by 1946 assumed epidemic proportions. There were just under 30,000 cases of confirmed and clinical malaria recorded during that year, and in Miri alone, 6,534 cases were reported. By 1961, the number of confirmed cases had dropped to 1,139 in the whole of Sarawak in spite of an active search for cases by numerous active and passive case detection units.

The remarkable advances which have been made in the control of this disease, formerly the most important single cause of illness and death in the country, have been the result of the

work of the Malaria Control Scheme now renamed the Sarawak Malaria Eradication Project. This started in 1952, when a World Health Organisation malariologist made a malarial survey of the country, and selected a site up the Baram river for a pilot control project, using D.D.T. as a residual spray. In the area chosen, malaria was endemic, there was a high parasite rate and a high incidence of enlarged spleens amongst the children, and the general health of the people was poor. In 1953, the first anti-malaria team moved into the area and commenced spraying operations, and by the end of the year it began to appear as if the residual spraying was indeed having some effect.

The pilot project ended in 1954, after two years of residual spraying, and the results obtained led to the conclusion that malaria could be controlled in Sarawak, using the methods which had been evolved by the pilot project teams. During the next four years, a Government-financed control scheme was carried out, covering all known malarious areas of the country, with the assistance of an advisory team of World Health Organisation experts. In 1959, plans were formulated to convert this control project into one of eradication of the disease, and the following year the Sarawak Malaria Eradication Project came into being. Since then, progress has been steady and successful, and by the end of 1962, except for certain "border areas" near the uncontrolled Indonesian Borneo territory, all the rest of the country, containing four-fifths of the population, was in the consolidation phase of the project, and well covered by active and passive case detection. In January, 1962, a Revised Plan of Operations, covering the period 1961-1963, was signed by the World Health Organisation and the Sarawak Government, and the first instalment of funds from the Malaria Eradication Special Account was received before the end of the year. The project continues to receive assistance from a World Health Organisation advisory team consisting of a malariologist, entomologist and a sanitarian.

Tuberculosis

In 1947, the number of cases of pulmonary tuberculosis reported was 1,090 with 211 deaths, but the Annual Report went on to state that "There can be little doubt that tuberculosis is much more prevalent and widespread than the figures quoted above would indicate . . ." At that time, Kuching was the

only place where special provision for the treatment of the disease was available. This consisted of an open ward for chronic male cases and a cubicle ward for male Government servants, with thirty-one male beds in all. Female cases were treated in a general ward, as was the case for all patients, male and female, elsewhere in the country. Except for the addition of twenty more beds in Kuching, there was little change in the situation until late 1950, when a Chest Clinic service was initiated in Kuching, and B.C.G. vaccination started. In 1953, a new Chest Clinic, the Wee Kheng Chiang Clinic, built with funds collected by the Anti-tuberculosis Association of Sarawak, was formally opened, and handed over to Government to staff and run. It was the first clinic of its kind in Sarawak and was equipped with mass miniature X-ray equipment. Elsewhere in the country, there was no special provision for the diagnosis or treatment of tuberculosis until the opening of the Government Tuberculosis Hospital in Miri in December, 1953, staffed and run by Sarawak Shell Oilfields Limited, and the provision of twenty-four beds in Sibul, and sixteen beds in Simanggang, for the treatment of patients suffering from the disease. By 1959, with the Malaria Eradication Project well established, attention could be turned to this, the second most pressing public health problem in the country, and plans to establish a country-wide control projects with Colombo Plan aid were under consideration. These plans were approved in 1960, and financial assistance from the Colonial Development and Welfare Funds, and from Colombo Plan sources in respect of certain items of equipment, supplies and personnel was received. A nursing sister arrived to start training local health personnel, and the following year, a Colombo Plan radiographer joined her, to train technical staff. In March, 1961, the project passed from the "hidden" phase to the "active" phase, when control operations commenced in Kuching, where teams tuberculin-tested school children and gave B.C.G. vaccination to all requiring protection. Mass miniature radiography was carried out on certain high risk adult groups and on all children with positive tuberculin, and sputum examinations were carried out in appropriate cases. To those requiring it, chemoprophylaxis with I.N.H. or chemotherapy with P.A.S., I.N.H. and in special cases, Streptomycin, was given, and the

trained assistant health visitors made frequent home visits to check contacts of known cases, and to ensure that the domiciliary treatment was being carried out as prescribed. In 1962, the project made considerable progress. Activities continued in the Kuching Municipal Council area where all schools and five of the nine Municipal wards were systematically covered by the end of the year. In October, 1962, staff of the Project moved to Sibü to start activities there. They had been recruited from the Third Division in 1961 and received their training in Kuching in preparation for their eventual transfer back to Sibü. At the same time peri-urban communities living across river from Kuching were visited by Project staff and approximately 1,700 pupils were Mantoux tested. Mass miniature radiography continued in Kuching and was started in Sibü. Plans have been made to recruit and train further staff from Miri in 1963, and to extend the work of the Project to that town towards the end of the year. Further expansion of the project to other urban, semi-urban, and rural areas is planned.

Cholera

After a lapse of fifty-nine years, during which period no cases of the disease had been reported in Sarawak, an outbreak of the *El tor* variety broke out in July, 1961, across river from Kuching, and spread later to all Divisions except the Fifth. There was a total of 301 cases reported of which seventy died, before the country was declared free from infection in the middle of October. During this outbreak, nearly 450,000 of the population were vaccinated against the disease. No further cases occurred until the middle of November, 1962, when there was a small circumscribed outbreak in the Upper Serian district of the First Division, close to the border with Kalimantan, and thought to have originated there. There were sixteen confirmed cases of which three died, and 15,228 vaccinations were performed. The last case was reported on December 10th, 1962.

Leprosy

The treatment and prognosis of this disease have been revolutionised since 1947, when it was reported that "The people, especially the Dayaks, fear the disease and pressure from within the community often leads to the self-isolation of recognised

lepers outside the longhouse or village. . . . Isolation has an important role to play in the control of this infection but isolation itself, especially compulsory isolation will not markedly reduce the incidence of the disease." No mention is made of any effective treatment, but by the following year a new drug, Sulphetrone, had made its appearance, and 100 selected lepromatous cases in the settlement started treatment with it. The Annual Report for 1948 stated cautiously that "By the end of the year, although it was far too early for certainty, there appeared to be improvement sufficient to hold out hope that at last a drug specific in its action against the disease might be available". This early hope turned out to be correct, and by 1951, patients who had become bacteriologically negative as a result of treatment with the drug started being discharged for out-patient treatment.

With the arrival of an experienced Superintendent in 1953, the administration of the settlement was greatly strengthened, and during the following nine years it was almost completely rebuilt and modernised. New and improved drugs were discovered, and the whole outlook changed for patients suffering from this ancient and greatly feared disease, the contraction of which had formerly meant a life sentence of isolation. From a "settlement" with "inmates" the institution changed into a "hospital"—the Rajah Charles Brooke Memorial Hospital—for "patients" suffering from leprosy. Instead of being a prison, shunned by outsiders, it soon became a place visited regularly by people of all ranks and races. Leaving ceremonies at which His Excellency the Governor presented discharged patients with "leaving certificates" became regular events, and helped greatly in the rehabilitation of former patients after their discharge from the hospital.

During 1962, further advances were made in the field of leprosy treatment. Two members of the staff, a doctor and a senior hospital assistant, received specialised training in Vellore, South India, as a result of which surgical treatment started during the year in a small theatre at the Rajah Charles Brooke Memorial Hospital, the equipment of which was generously provided by the British Leprosy Relief Association. The Association also provided tools to equip a workshop where artificial limbs and special footwear for patients can now be made. The services of a

physiotherapist, jointly sponsored by the British Red Cross Society and the British Leprosy Relief Association, have also been of great benefit to crippled patients.

Another major advance has been in the field of training of hospital assistants. A new training centre and hostel, built with funds provided by British Leprosy Relief Association, was completed, and the first batch of trainee hospital assistants underwent a two-month course of training in the diagnosis and treatment of leprosy from September to November. This successful venture will be the forerunner of further courses designed to fit hospital assistants in charge of rural dispensaries better for their task of diagnosing the disease, and giving patients treatment on an out-patient basis. The only hope of effectively reducing the incidence of the disease in Sarawak lies in the increased use of domiciliary, as opposed to institutional, treatment.

Endemic Goitre

A start has been made in the prevention of this endemic disease by the iodisation of salt destined for sale in the affected areas. One salt iodisation plant has been successfully installed in Sibü to iodise all salt for the upper Rejang area. A second plant will be installed in the Kuching area, as soon as suitable accommodation is available, to cover the First and Second Divisions.

Dysentery and Enteric fever, and other intestinal diseases are still, unfortunately, all too commonly encountered due to the poor and often non-existent sanitary facilities and polluted water supplies in many rural areas. A rural sanitation pilot scheme, started in the First Division, has yielded valuable information about the types of wells and latrines best suited for various types of country and community. Type plans have been prepared, and the next step is to extend the scheme to cover wide areas in a more systematic manner than has hitherto been possible. A new Rural Health Improvement Pilot Scheme was drawn up and approved during 1962 and will come into effect early in 1963. A new and comprehensive Public Health Ordinance was passed by Council Negri in December, 1962, and comes into effect on January 1st, 1963. The object of this Ordinance is to make better provision in the law relating to public health in Sarawak and to

consolidate and bring up to date the existing law and to set it out in one piece of legislation. It will give the health authorities wider powers to enforce measures designed to protect the health and welfare of the public, and to prevent the spread of disease.

PREVENTIVE AND SOCIAL MEDICINE

Free protective inoculation against diphtheria, tetanus and whooping cough is available in all Maternal and Child Health Clinics and free vaccination against smallpox is available generally at all Government medical centres. Cholera vaccination is only free when undertaken as a specific health measure in the face of an outbreak such as occurred in 1961 and during November and December, 1962.

Health Education has steadily increased over the years. Increased emphasis has been placed on the public health and preventive aspects of their work during the training of hospital assistants and midwives. The house-to-house visiting by the assistant health visitors attached to the tuberculosis control scheme has afforded an opportunity for the general principles of health education to be spread more widely, in addition to the more specialised advice given about tuberculosis. The outbreaks of cholera during 1961 and 1962 afforded the Department an opportunity of stressing the dangers of poor environmental sanitation and the need for cleanliness in the home and its surroundings, and in the streets, markets and eating places. Lectures have been given by members of the Department to scholars, student teachers, administrative cadet officers and clerical staff taking courses in the Civil Service Training Centre, while visiting public health experts have been invited to give press and radio interviews during their visits. Posters and pamphlets for distribution have been prepared and, in collaboration with the Information Office, two "wall newspapers" were prepared during 1962 on tuberculosis and the "home help" scheme. These were widely distributed to longhouses where they are displayed for all the community to see.

School Medical Service

Although there is as yet no separate school medical service providing regular medical examinations of school children, steps have been taken, with the co-operation of the Education Depart-

ment, to ensure that more attention is given to the teaching of simple rules of hygiene to school children. In certain schools where adequate supervision is available, supplies of U.N.I.C.E.F. dried skimmed milk has been provided as a supplement to the diet of pupils. Vitamin A and D capsules have also been received from U.N.I.C.E.F. for distribution to these schools.

MATERNAL AND CHILD HEALTH SERVICES

This branch of the Medical services has expanded perhaps more rapidly and widely than any other during the past fifteen years. In 1947, there were maternity sections in Kuching and Sibü hospitals, and a lady medical officer in Kuching carried out some ante-natal work in the out-patient department. Otherwise maternal and child health services were non-existent. The following year separate accommodation was made available in Kuching for an ante-natal clinic, and in 1949, a Health Visitor arrived, and ante-natal and child health work became more firmly established in the capital, and small sub-clinics were set up in the centre of the Malay *kampong*, and at a place fifteen miles from Kuching. The staff of the clinics consisted of a lady medical officer, a health sister, two trained nurses and five district midwives. There were six trainee midwives receiving a year's practical training.

In 1951, the services of a midwife tutor provided by U.N.I.C.E.F. were made available for a period of eight months, and training was extended to cover ante-natal care and home visiting. Attendances at the three clinics had by this time more than doubled. The following year, in an attempt to raise the standard of rural midwifery, three married nursing sisters with United Kingdom qualifications were engaged, one in Kuching, one in Simanggang and one in Sibü, to train midwives nominated and subsidised by Government or local authorities. U.N.I.C.E.F. aid in the form of equipment for five clinics was later obtained, and also supplies of powdered skimmed milk and vitamin capsules.

By 1955, there were seven clinics in Kuching and Sibü, and other small local authority centres scattered throughout the country. Legislation for the registration of midwives was completed during the year and came into force on January 1st, 1956. Until

1960, the one year's training of rural midwives continued, the training programme being strengthened in 1959, by the appointment of a midwifery tutor. The year after her arrival, the duration of the training course was extended from one to two years, and in 1962, the first of the midwives trained under the new scheme passed their final qualifying examination. At the end of 1962, there were no less than 440 midwives registered under the Midwives Ordinance, and of this number, 168 were in Central and 103 in Local Government service. There are now Maternal and Child Health Clinics all over the country, some run by the Central Government but most of them staffed and run by local authorities. Total attendances at the Kuching and district clinics have increased from 10,886 in 1949, to 115,322 in 1961, the last year for which figures are at present available.

Dental Health

The first dental officer to be appointed after the war, arrived in 1949, and three years later a second post was added to the dental establishment. By 1959, there were five dental officers in the Government dental service, and the establishment remains the same to date. The first dental clinic in Kuching was later joined by a second in Sibul and, in 1960, by a clinic in Miri. The work done at these clinics has increased steadily over the years. The 1949 Annual Report records a total of 606 extractions and 2,954 fillings performed. In 1961, the comparable figures were 60,356 and 12,497 respectively. The most significant development during the past few years has been the building up of the school dental service. One dental nurse, trained in New Zealand under the Colombo Plan, returned to Sarawak in 1954 and since then four more have qualified and returned to take up posts in Kuching, Sibul and Miri. Four more girls have been sent to New Zealand each year since 1961 and it is planned to send a further four each year for the next four or five years.

Another important development in the field of dental public health has been the introduction in 1961 and 1962 of the fluoridation of water supplies. In 1961, a Fluoridation Advisory Committee was appointed by Government under the chairmanship of the Director of Public Works, and with the Superintending Dental Officer as a member. Dental surveys were first carried out

by officers of the dental section which confirmed that there is a high incidence of caries among school children. The Committee advised the fluoridation of all newly commissioned and fully treated water supplies. By the end of 1962, Simanggang, Serian, Marudi, Sarikei and Binatang water supplies were all being treated.

Mental Health

As in the case of leprosy, the treatment and general care of the mentally sick has been revolutionised since the end of the war. At that time, the "mental hospital" consisted of three wards, in close proximity to the General Hospital, Kuching, each capable of accommodating some thirty patients, with a block of single cells for violent cases. The 1947 Annual Report stated "There is no staff properly trained for the work, and medical supervision, owing to shortage of medical staff, has been minimal. The institute is an unsatisfactory one and cannot be rendered satisfactory". At that time, discussions were taking place with the Governments of North Borneo and Brunei regarding the erection of a mental hospital to meet the needs of the three territories, and a site on the island of Labuan had been chosen and approved. Later, a site near Kuching was substituted, but although plans were prepared and approved, and building was expected to start in 1952, the proposal eventually fell through, and instead it was decided to build a new mental hospital near Kuching, to serve Sarawak only. The new Sarawak Mental Hospital was eventually completed in 1958 and declared open by His Excellency the Governor in June of that year. A Specialist Alienist was appointed in 1958.

The contrast between the new and the old accommodation for mental patients is paralleled by the contrast between the treatment, or rather lack of it, which they originally received, and the treatment now being given by the Psychiatrist and his trained staff. Electro-convulsive therapy, new psychotropic drugs, and general psychiatric treatment and group therapy, have completely changed the outlook for the mentally sick. As in the case of the Leper Settlement, the Sarawak Mental Hospital is now a hospital, in the true sense of the word. The hospital is increasingly being run on "open" lines, and visitors are encouraged. Patients are being admitted more and more on a voluntary basis, rather

than being certified, and out-patient treatment is increasing yearly. The percentage of voluntary patients rose from nought per cent in 1958 to 63 per cent in 1961, and total attendances at out-patient clinics in Kuching and Sibu rose from nil in 1954 to 3,227 in 1961.

HOSPITALS AND DISPENSARIES

The advances described above which have been made in the fields of preventive and social medicine and the control of epidemic and endemic diseases, have been paralleled by equally striking advances in the curative field. In 1947, there were only two Government hospitals in the country, namely the General Hospital, Kuching, of 250 beds, and the Sibu Hospital, of fifty-five beds. Since then, the Miri Hospital has been taken over by Government, and new hospitals have been built at Simanggang, Limbang and Sarikei. Kuching and Sibu hospitals have been greatly improved and extended and now have 369 and 280 beds respectively. The total number of general beds available in the six Government hospitals is now 954, compared with 305 in 1947. To this total can be added 129 beds in Mission hospitals making a grand total of 1,083 general beds in the country, or one bed per 687 of the population.

In 1960, it was decided to start planning a new 500-600 bed hospital for Kuching. Colombo Plan assistance was requested and as a result, a team of Australian consultant architects was sent to Kuching for over two months, towards the end of 1962, to prepare a draft narrative and preliminary sketch plans. They are now engaged in preparing sketch plans and working drawings in Australia, and it is hoped that, subject to the availability of funds, construction of Phase I of the hospital will begin about the end of 1963 or early in 1964.

The twenty-one static out-patient dispensaries available in 1947 have increased to thirty in 1962. New dispensaries have been built at Tebakang, Nonok, Lubok Antu, Engkilili, Sebuyau, Spaoh, Debak, Kabong, Binatang, Balingian, Julau and Song. One dispensary, at Meluan, has been discontinued, and those at Sarikei, Miri and Limbang have become the out-patient departments of the hospitals in these towns. The standard dispensary plan which has now been adopted is so designed as to allow of its expansion

to a local hospital of twenty-four beds, and it is planned to do this at Marudi during 1963. A new local hospital at Lundu in the First Division, built to the same design, is also planned for 1963.

In 1947, a scheme for the provision of medical services to the remote areas of the country by means of travelling dispensaries was put forward and approved, and Colonial Development and Welfare funds were provided to implement the plan. Sixteen mobile river dispensaries were established in the course of the next three years, and of this number there are still ten operating, the others having since been replaced by static dispensaries. There are also fifty-one "ulu dressers" throughout the country. These are men from remote areas who received a one year's training course in Kuching, Sibü and Miri General Hospitals, during the years 1955 to 1958, and then returned to their own areas to give treatment, on a limited scale, to the local people.

In 1961, in an attempt to provide some help in dealing with day-to-day minor ailments in remote longhouses and *kampongs*, a scheme for the training of voluntary workers known as "home helps" was started. Short courses of instruction for suitable trainees from remote longhouses were held in divisional hospitals by the Travelling Dispensary Superintendent, and a kit of simple drugs and dressings was supplied to each on the successful completion of the course. By the end of 1961, 122 "home helps" had been trained in the five Divisions, and reports on the progress of the scheme were so encouraging that a further 143 were trained during 1962, making a total of 265 at the end of the year. Further expansion of the scheme depends on the financial resources available.

Special Services

(a) Pathological Laboratory Services

The pathological laboratory service has been built up over the past four years, since a full-time medical officer was put in charge. This officer obtained the Diploma in Pathology during study leave in 1962. The Central Laboratory is the training centre for all laboratory technicians, and it also serves as a reference centre for the smaller divisional laboratories in Sibü,

Simanggang, Miri, and Sarikei. The services of a laboratory technologist were made available under the Colombo Plan for two years, during 1960 and 1961, and he gave invaluable aid in organising and running the training courses. The Central Laboratory is now recognised by the Institute of Medical Laboratory Technology in London as a training centre for the Intermediate examinations of the Institute.

In November, the first of three annual visits to Sarawak was started by a team of research workers from the Medical Research Council in London to study encephalitis in Sarawak. The research programme is being jointly financed by the Medical Research Council and the Sarawak Government, and the Medical Officer-in-Charge, Central Laboratory, is working in close co-operation with the team during their two months' visit. Further short visits are planned during 1963 and 1964 to collect additional material and examine further patients.

X-ray Services

The X-ray services have been steadily built up over the past five years. There are now X-ray units attached to all six Government hospitals, to the Chest Clinics in Kuching and Sibü, and to the Health Centre, Kuching. New and up-to-date equipment has been installed in the Kuching and Sibü hospitals during the past two years, and 70 mm. Odelca units in the two Chest Clinics.

(c) Physiotherapy Services

The arrival of an experienced physiotherapist, jointly sponsored by the British Red Cross Society and the British Leprosy Relief Association, has been of great help to the Kuching General Hospital and the Rajah Charles Brooke Memorial Hospital. A local student is at present studying physiotherapy under a Colombo Plan scholarship in New Zealand, and is due to return in 1964 to take over from the Red Cross physiotherapist. It is hoped to send a female student for a similar course, next year.

Medical Stores Services

There is a Central Medical Stores in Kuching while there are divisional stores in Simanggang, Sibü and Miri. The Central Stores is housed in new buildings at Tanah Puteh near the new Kuching

Port, opened during 1962. Attached to the new stores building is an office and manufacturing laboratory section, where tablets, ointment and other preparations are manufactured. New tableting machinery and other modern equipment have been installed and this new section is now one of the most modern in the South-east Asia region. All dispensers are trained in the Central Medical Stores before being posted to divisional dispensaries and medical stores.

Voluntary Organisations

The Social Welfare Council acts as the central welfare agency to which Government funds for welfare work are paid over for distribution to various charitable organisations in Sarawak.

The Sarawak Branch of the British Red Cross Society carries out relief work for the victims of fires and other disasters, and also trains first-aid workers, organises blood transfusion services in Kuching, Miri and Simanggang, and runs a transit hostel in Kuching for patients and their relatives and friends from distant places who require some place to stay for a day or two when visiting Kuching for medical attention.

The Anti-tuberculosis Society of Sarawak (A.T.A.S.) takes a closer interest in the anti-tuberculosis project in Kuching and Sibü, and voluntary workers have assisted in various ways such as counting and packaging P.A.S. and I.N.H. tablets. The Society has appointed an honorary almoner who investigates all cases requiring food parcels and other assistance. Two T.B. longhouses are maintained by the Miri branch of the Society at Marudi and Bintulu in the Fourth Division, to provide accommodation for patients on routine treatment.

The Sarawak Society for the Blind which was formally inaugurated in December, 1960, spent 1961 and 1962 in fund-raising activities, and was able to commence the building of its training centre early in November, 1962. A few weeks later the foundation stone was laid by His Excellency the Governor. Present at the ceremony were two senior executive officers of the Royal Commonwealth Society for the Blind, now in Borneo to assist in blind training and rehabilitation work. They will visit

Sarawak in 1963, when the centre has been completed, to organise the first training courses.

The Salvation Army has continued its invaluable work in maintaining homes for boys and girls requiring care and attention, and for the aged. Children born to parents with leprosy, in the Rajah Charles Brooke Memorial Hospital, have also been looked after in the Girl's Home.

The Sibü Benevolent Society maintains a Nursing Home in Sibü, and an old peoples' home, "McCarthy Lodge" at Salim on the Rejang River. The former is for aged men and chronic cases of tuberculosis. A medical officer from the hospital in Sibü visits it periodically. The caretaker is a trained "home help". The latter accommodates old people of both sexes. A sub-committee of the Society looks after the blood-donor panel.

In Miri, a home for aged paupers is run by a voluntary relief committee. In Kuching, a Home for the Aged is maintained by the Sarawak Social Welfare Council. It is situated twelve miles from Kuching on the Simanggang Road and accommodates 130 old men. It is visited regularly by the Divisional Medical Officer, First Division.

Other organisations such as the Chambers of Commerce, the various Chinese, Dayak and Malay Associations, the Corona Society, the Rotary Club and Church organisations have given voluntary assistance in many different ways, to hospitals and other medical institutions.

SOCIAL WELFARE

The Sarawak Social Welfare Council is an organisation composed of official and unofficial members from various races, creeds and walks of life, who voluntarily give their time and service in an endeavour to help those in need of welfare assistance.

The purpose of the Council is, in consultation with Government, to guide welfare policy in Sarawak, and to disburse funds through the many other voluntary organisations, according to their needs, throughout the country. Approach to the Council may be made directly by individuals, associations and societies.

Local District Relief Committees, through affiliation with the Council, are entitled to send delegates with full voting powers to its meetings which are held monthly in Kuching.

The Council's funds are derived from several sources. Its main revenue comes from the Central Government in the form of an annual grant which at the moment amounts to \$195,000. Another important source of income is the contribution of the Sarawak Turf Club of 10 per cent of the total pool of their sweepstakes (without deduction of expenses) and 50 per cent of all unclaimed prizes according to a new agreement reached between the Council and the Club and approved by the Governor in Council as from 1st October, 1961. Although the Council has not held its annual country-wide lottery since 1960, a revival of this is a possibility should the amount of the contribution from the Sarawak Turf Club remain below expectation. The total income of the Council for the year was \$331,837.58 against an expenditure of \$313,758.86, thus leaving a surplus of \$18,078.72.

The Council's new practice, introduced as from 1961, of making allocations of funds based on estimates submitted by all affiliated welfare bodies and those receiving grants from the Council, has facilitated the Council's planning of its future programmes in a more orderly manner.

Since its inception in 1947, the Council has made gradual but satisfactory progress. Today there are twenty-two bodies affiliated to it. A number of homes for the aged have been built in various Divisions and the one at 12th Mile Kuching/Simanggang Road, which is the central home for Sarawak and has some 150 inmates, has received special attention. Two new blocks have been built and provision has been made for quarters for the nuns, who will live and work on the spot, water supply, communal kitchen and access road improvements. The home is administered, under the auspices of the Council, by a Board of Management which has eleven members appointed by His Excellency the Governor.

All the welfare institutions which receive grants from the Council have been very active. The Salvation Army Girls' Home in particular perhaps deserves special mention. When it opened in 1950, it had accommodation for eighteen girls. Today it has

The Painted Cave at Niah where Sarawak Museum excavations took place during 1962. Foreground shows boat-shaped pre-historic coffins of ironwood. In the cave's ceiling (see upper right) a series of grottos were discovered which contained abundant human remains.

(Sarawak Museum)

Batu Ritong, a megalithic monument in the Kelabit uplands, where the Sarawak Museum explored and excavated during 1962. Front view showing the Curator and members of the excavation Party.

(Sarawak Museum)

Airview of Mt. Batu Lawi (6,603 feet), prominent landmark of the Kelabit uplands.

(Sarawak Museum)

Melanau "jerunei" or burial pole of intricately carved ironwood timber being rescued by the Sarawak Museum from the banks of the Oya River at Dalat where it was in danger of being carried away.

(Sarawak Museum)

An intricately carved antique Chinese double-bed, a new Museum exhibit with its donor, Mr. Ong Kwan Hin.

(Sarawak Museum)

*A sub-adult Proboscis Monkey (*Nasalis larvatus*) in mangroves of the Sarawak River delta. Unique to Borneo, they are under legal protection.*

(Sarawak Museum)

*Albino baby of the Green or Edible Turtle (*Chelonia mydas*) hatched on Talang-Talang Islands during 1962.*

(Sarawak Museum)

Mr. F. D. Jakeway, the Officer Administering the Government speaking at the opening of the new Minerals and Geology gallery of the Sarawak Museum.

(S.I.S.)

















accommodation for over 100 persons, including sick old ladies, unmarried mothers, girls, children and babies.

With the financial assistance of the Council which it received to supplement its own funds, the Sarawak Society for the Blind is able to build a rehabilitation centre costing \$134,850. The Royal Commonwealth Society's Blind Training Expert, Mr. Babonau, accompanied by his wife, has been seconded for duty in Sarawak and North Borneo for two or three years.

During 1962, the Catholic Relief Service received 438,425 pounds of foodstuff consisting of flour, cornmeal, powdered milk, cooking oil and Bulgur wheat valued at \$91,688.58 and distributed them to forty schools run by various denominations, including those run by local authorities, and to eighteen welfare institutions. The Council allocated the sum of \$8,000 to meet the inland transportation costs. The programme for 1963 provided for the shipment from the United States of America to Sarawak of 679,500 pounds of foodstuff, which will include two new items, i.e., butter and cheese, valued at \$277,920. After consultation with the Council, the Catholic Relief Service plans to distribute this foodstuff to seventy-eight schools, including rural boarding schools, in the remote and almost inaccessible areas and charitable institutions catering for the aged and/or infirmed throughout the country.

A survey of deaf mutes on a country-wide basis is being conducted by the British Red Cross Society with a view to ascertaining whether there is a case for the formation of a Society or Association for the Deaf and the training of teachers of the deaf. The Council has promised to give financial assistance.

The two T.B. longhouses in Marudi and Bintulu continue to do good follow-up work in connection with patients discharged from the hospitals prior to their return to their own homes. Pills and medicine are given regularly and the patients are returned to the T.B. Hospital in Miri for periodical check-up. By this means, it is ensured that final cure is effected before patients return to their own communities. Of the large number of patients detained in the longhouses during the year, the majority eventually returned home as being fully cured.

COMMUNITY DEVELOPMENT

There is, at the moment, no separate department of Government responsible for a national programme of Community Development possessing professionally-trained personnel; nor any centre at which such professional training in the orthodox sense can be undertaken. In a territory where the district administration has maintained peculiarly close contact with rural Native peoples, the traditional role of the District Officer has been, in fact, Community Development—although it may not have been known formally by that name—and has been, in recent years, devoted primarily to the development of Local Government as a system of decentralised administration involving local participation.

Special Community Development techniques, utilising teams under expatriate leadership, additional to the conventional Resident and District Officer structure, have been restricted to supplying “boosts” to selected areas lacking particular needs and not accessible to Government departmental services, or where Local Government influence is weak. As such, Sarawak’s programme has relied very much on empirical experiment in limited areas.

In 1948 a small official committee called the Adult Education Committee was set up. Its responsibilities in this field subsequently passed to a voluntary body with official representation—the Sarawak Council for Adult Education; in 1951 the original committee became an enlarged body known as the Community Development Committee under the chairmanship of the Deputy Chief Secretary and including Secretariat, Administrative and Departmental officers, with the following terms of reference:—

- (i) to examine and report on future Community Development policy;
- (ii) to be responsible for all Community Development undertakings.

In 1955 the Committee obtained the services of a full-time Executive Officer who operated within the Secretariat. With the growth of the Community Development approach it was apparent that this arrangement was not entirely satisfactory and at the beginning of 1960 Community Development was included in the schedule of the Local Government branch of the Secretariat and the Committee was reconstituted on a more compact basis.

This Committee, which is able to co-opt departmental heads as required, is charged with the planning and direction of specific Community Development projects; in particular ensuring that adequate liaison is maintained between field workers and the administration and technical departments and that the activities of its field workers are integrated as closely as possible with local authority growth and current departmental programmes. By the end of 1962, community needs were being increasingly met in many cases on the basis of active community participation, by the growing influence of District Councils and the rapid expansion of orthodox departmental development programmes.

Since 1950, some \$2½ million has been provided for Community Development purposes generally in various development budgets by Council Negri, of which about \$2 million has been expended or committed to date. The completion of continuing schemes is calculated to absorb most of the balance and the initiation of any new schemes will require additional provisions. It is hoped that local authorities will increasingly feel able to share the burden of the costs of continuing schemes within the areas of their jurisdiction and will absorb such parts of completed schemes as cannot properly be regarded as a departmental responsibility of Central Government.

In the early stages, the field supervision of various Community Development schemes was undertaken by non-established expatriate personnel serving on contract terms on approximately the equivalent of local salaries and without inducement pay or service allowances. These dedicated officers, of whom there remain at the moment five appointed as Officers-in-Charge of schemes, make a special point of living in the field in conditions comparable to those of their trainees. Remaining field staff, in the form of Community Development Assistants, are drawn in the main from the community which a scheme is designed to serve and earmarked to assume charge during any scheme's "run-down" phase and eventual absorption into the local authority or appropriate Government department. Teaching staff within a scheme are invariably provided by the local authority and there is occasionally secondment of junior technical Government personnel.

Initial endeavours were deliberately experimental and limited in scope on that account. Early schemes included an adult literacy campaign in the Paku-Saribas, the establishment of a rural improvement school at Kanowit, and a better living project at Muara Tuang. It is doubtful whether these early schemes have had much lasting effect or value, due in part to absence of professional guidance, interruptions in leadership and too much reliance on sustained stimulus from outside rather than spontaneous community enthusiasm. Progress continued along generally experimental lines, although increased experience of field personnel involved more careful selection of areas and greater attention to planning in the initial stages.

Budu, the initial scheme in the current phase, was established in 1953 and designed to improve the standard of living of an Iban community through self-effort in a relatively isolated area where technical departments and local authority jurisdiction was weak. Although conceived as a multi-purpose scheme, it was concerned primarily with the training of a young "elite" and its focus, therefore, tended to be a primary school of the usual local authority type with vocational training grafted onto the orthodox curriculum in association with a limited programme of adult education. Trainees were selected from the general area for academic and vocational training and the best selected for overseas training. In January, 1962, the scheme was handed over to returned overseas trainees and Government financial assistance generally withdrawn. The formation of the Upper Krian Parish Council, a small advisory body within the jurisdiction of the Kalaka District Council, heralds the beginning of the process of Local Government integration.

The Entabai scheme, started in 1957, represents a sister project and follows basically the Budu pattern; it draws much on Budu experience and is largely complementary to it. It is located in a region which, although economically poorer, was considered suitable for the development of a Budu-type programme. It is now in its final phase and scheduled to run into 1964, when it is hoped local integration will be complete.

Conceived in 1959, and planned to extend until 1965, the Iban Teams project represents an extension of the Budu/Entabai

approach and was planned as an attempt to achieve wider Community Development coverage of this type at a more economic cost. The project depends upon the careful selection, from relatively widely-separated areas thought suitable for a Budu-type programme of teams, of four potential Community Development leaders for four-year "in-service" type training courses in the established centres at Budu and Entabai. During this period, provisional Committees of Progress in the areas from which the teams have been drawn are required to begin the preliminary work necessary for the setting up of a centre to which each team will eventually return. Arrangements were complete at the end of the year for the launching of two teams in January, 1963.

In 1956 the Padawan scheme was launched and is scheduled to run until 1963. The centre serves an economically-depressed area of fifteen Land Dayak villages and depends primarily on the establishment by the community of a cash crop economy as a necessary prerequisite of the means to better living. It places emphasis, therefore, on improved agricultural techniques. It was originally hoped that the centre could be associated with Outward-Bound courses, but failure to secure a suitable supervisor with experience of these techniques has necessitated leaving this aspect in abeyance for the time being. The scheme, now in its "run-down" phase, is under the leadership of a Land Dayak and the permanence of much that has been achieved will depend upon the successful completion of the Padawan Road linking the centre with the main Kuching/Simanggang highway.

The Long Lama centre, set up in 1961, was originally designed to impart simple technical skills to interior people of the Fourth Division. The courses, originally covering two years, have been reduced to one year and limited adult education introduced in conjunction with elementary agricultural extension techniques. This has been accompanied by limited expansion in the form of increased student intake drawn from a rather wider area embracing the Third and Fifth Divisions and it is hoped that it will be possible, in future, to give greater emphasis to "follow-up" procedure. It is now envisaged that at the end of 1963 the centre will eventually be taken over as a Farm Institute, that is a small station offering practical farming experience under supervision for a limited period, rather than an extension centre proper.

The Lemanak centre was launched in 1961 for a planned three-year period. Planned within modest resources and of limited aim, this most recently-conceived scheme is designed to serve an economically-depressed Iban community located in an area of transition between town and country and designed specifically to meet the problems peculiar to downriver communities in contact with bazaar influences; as such, it is particularly concerned with dealing with the Iban problem of *pindah*; i.e., recurrent communal migration following soil exhaustion as the result of shifting cultivation. After a slow start, the scheme was making encouraging progress by the end of 1962 and the unexpected discovery, arising from a soil survey, of fertile areas suitable for rubber planting, holds out future hopes of more spectacular progress than has been originally envisaged.

Two independent ventures in the general field of Community Development sponsored by two of the missions require note. The Anglican Church of Borneo has established an agricultural training centre in the First Division designed for primary school leavers; whilst the Roman Catholic Mission has experimented with a series of work camps for secondary school pupils, also in the First Division.

Whilst much orthodox administrative activity in the past, in the form of self-help minor roads, community participation in rural school building, etc., can justifiably be regarded as having been Community Development in concept, the expansion of developmental programmes of technical departments of Government and of local authorities has recently been so rapid that these increasingly embrace, in terms of meeting community needs, those fields traditionally reserved for Community Development activity proper. Apart from the major programmes relating to expansion of communications, education and curative health services, etc., current activities of this type which are particularly worthy of note are those of the Agricultural Extension teams, the inauguration early in 1961 of Home Helps as a means of providing simple curative services for communities at longhouse level and the sponsored launching of a Rural Health Improvement scheme in the First Division as a pilot experiment for extension elsewhere.

Since 1958, Sarawak has accepted an annual intake of United Kingdom Student Volunteers under the auspices of Voluntary Service Overseas and, with the repatriation of the 1961/62 batch, a further group of seventeen (including three from New Zealand) was accepted in 1962. Three are engaged in Community Development, two are assisting in youth work, two are teaching in mission schools, eight are teaching in Government secondary schools and two are employed as English teachers in Chinese schools. As well as participation in Community Development projects, valuable work has been accomplished by Volunteers assisting in youth activities in the local application of the Duke of Edinburgh's award scheme.

YOUTH ACTIVITIES

The Sarawak Youth Council held its Fifth Annual Meeting in Kuching attended by forty delegates representing various youth interests throughout the country. Three delegates attended the Fourth General Meeting of the World Assembly of Youth held in Denmark and five attended a Rural Development Seminar in Kuala Lumpur. Mr. Joseph Madden, an American Recreation Expert, conducted leadership courses in the First, Third and Fourth Divisions.

A number of youth clubs have been formed during the year, but lack of experienced leadership and shortage of finance to provide premises have hindered progress. A sum of £2,000. representing the first instalment of grants totalling £8,000 towards the cost of four youth centres in Sarawak, was made by the Wolfson Foundation and allocated to Sibu where encouraging progress has been made in the setting up of a Board of Trustees to manage this enterprise. It is hoped that this example will set the pattern for assistance to other youth centres. A proposal to send two young men to the United Kingdom for a one-year Youth Leadership Course should help to improve the situation when their full-time help in youth work becomes available on return. Much is being achieved in the field of youth welfare by Student Volunteers in Sarawak under the auspices of Voluntary Service Overseas and a small bi-monthly magazine devoted to youth activities 'The Visor' has been launched with their initiative.

Duke of Edinburgh's Award Scheme

After the pilot scheme in 1961 had proved successful, plans were made to enlarge the project. In August, 1962, a Leadership Course was held for prospective leaders for the scheme. Fourteen young men, from youth clubs and secondary schools all over Sarawak, attended the course. As a direct result of this, the number of centres increased to eight with 204 boys engaged in the scheme. So far, fifteen Silver and four Bronze Awards have been gained.

The scheme has had a modest but successful beginning. No further expansion is planned until the new centres are working successfully. This will give the Advisory Committee the opportunity to overcome problems peculiar to Sarawak. There is every hope that this planned development will ensure a successful outcome for the scheme, the first of its kind in this part of the world.

Boy Scouts

It was a successful and active year for the Scout Movement with an increase in the Cub section. The highlight of the year's activities was the First Sarawak National Patrol Camp held in Sibu during August. Over 200 scouts, including patrols from North Borneo and Brunei, attended the Camp. Scouts came from all over Sarawak and included representatives from nearly all the peoples of the country.

The Sarawak Training Team organised a Preliminary Training Course for Scoutmasters and arranged for four Scoutmasters to attend a Wood Badge (Part 2) Course in Malaya. Three Scoutmasters attended a Training Team Course (for those who will train Scoutmasters) in Manila. A 500-mile Venture Journey through Malaya by forty-four Senior Scouts marked the end of the year's activities. Much of the credit for this and the year's progress goes to the Organising Commissioner.

Scouts assisted at all public functions and gave their services to various charitable schemes held during the year. Job Week was successful with earnings above the previous year's.

Girl Guides.

The 1962 census showed a satisfactory rise in membership, particularly in rural areas. Four new Guide Companies and two Brownie Packs have been registered during the year. Guides have taken part in public functions in all Districts and rendered service to the public in many ways.

A Commonwealth Headquarters Trainer, on a two-year tour of duty and shared jointly with the Girl Guides Association of North Borneo, is now in Sarawak after completing her year in Jesselton. A variety of training sessions for Guiders and Patrol Leaders have been held during the year. Training visits have also been made to many rural Companies and Packs.

Fund raising for the new Headquarters building has been going ahead throughout the year helped by funds from 'Earning Week' which has been successfully established. The new Guide House in Miri, made available by Sarawak Shell Oil Company, was opened during the year.

Boys Brigade

The first Boys Brigade Company was started in Kuching in 1961 and has developed well since then. By the end of 1962 there were forty-eight boys with four Leaders. The Company has been active during the year and it is hoped that the Brigade will spread to other areas in Sarawak. It is filling a need but like all other youth organisations in the country, the lack of leaders is preventing more spectacular expansion.

Sports

All the existing associations, which comprise soccer, hockey, basketball, athletics, table tennis and badminton, have continued to promote these activities. Softball has recently been introduced in Kuching and is proving very popular. Rugby and volley ball are also played.

The building of a bitumen all-weather track by the Kuching Municipal Council has resulted in a great improvement in athletics. The track has made training possible throughout the year in spite of bad weather and twenty-two out of twenty-seven field and track records have been broken. The Borneo Games was

held in Kuching and Sarawak athletes won for the first time. Small contingents were sent to the Singapore athletic meeting, and to the international meeting at Djakarta as well as the British Commonwealth Games held in Perth. It was a year of improvement and achievement for Sarawak athletes.

Schemes embodying swimming pools and playing fields have been planned for Kuching, Simanggang, Sibulimbang on the basis of being financed by a Colonial Development and Welfare grant, a Sarawak Government grant and matching contribution against contribution from local authorities and public subscriptions. The Simanggang project was all but complete by the end of the year and expected to be opened to the public in the new year. Satisfactory progress continues in respect of the Kuching and Sibulimbang schemes, where swimming pool facilities of Olympics standard will be provided. A complimentary scheme to provide for the establishment and improvement of playing field facilities in outstations made satisfactory progress.

XI

LEGISLATION

Laws of Sarawak

A PART from local Government subsidiary legislation and a few minor exceptions, the local legislation is contained in—

- (a) Volumes I to V containing all the Ordinances of Sarawak enacted and not repealed or spent prior to the 31st December, 1958, except—
 - (i) those Ordinances or parts thereof which are listed in the First Schedule to the Revised Edition of the Laws Ordinance as amended by G.N. S. 47 of 1959; and
 - (ii) certain provisions which have been transferred by the Commissioners of Law Revision to the Revised Edition of Subsidiary Legislation (Volumes VII and VIII);
- (b) Volume VI—the Reprint Volume which is divided into three sub-volumes, contains the Treaties and Engagements relating to Sarawak, the Sarawak Constitutional Instruments, the Sarawak, North Borneo and Brunei (Courts) Order in Council and subsidiary legislation made thereunder, the Commission of, and the Royal Instructions issued to, the Commissioner-General for South-East Asia and the Acts of the United Kingdom specified in the Schedule to the Application of Laws Ordinance together with certain other Acts which apply in Sarawak. Where legislation has been reprinted in this Volume it has, as far as possible, incorporated all amendments made prior to the 1st October, 1957;
- (c) Volumes VII and VIII contain all the subsidiary legislation of Sarawak in force on the 1st January, 1959 (subject to certain amendments made by the Commissioners of Law Revision with the approval of the appropriate

authority) except—

- (i) all subsidiary legislation specified in the Second Schedule to the Revised Edition of the Laws Ordinance, 1956, as amended by G.N. S. 48 of 1959; and
- (ii) all subsidiary legislation made under the Kuching Municipal Ordinance and the Local Authority Ordinance; and
- (d) Volume IX contains the Index to the Revised Edition compiled by Mr. J. H. Thompson.

A Revised Edition of Local Government Legislation which is being prepared in the Attorney-General's Chambers should be published in early 1963.

All Ordinances and subsidiary legislation of Sarawak are published in the Supplement to the *Sarawak Government Gazette* which is divided into five parts as follows—

Part I Ordinances.

- Part II
- (a) subsidiary legislation other than subsidiary legislation to be published in Part IV;
 - (b) Acts of Parliament, Orders in Council and enactments made thereunder applicable to Sarawak or published for public information;
 - (c) Treaties or Conventions affecting Sarawak or published for public information;
 - (d) Letters Patent;
 - (e) Royal Instructions;
 - (f) Royal Warrants and Proclamations; and
 - (g) such Instruments of the Governor as the Chief Secretary may direct shall be published in this Part.

Part III Bills to be introduced into Council Negri.

- Part IV
- (a) all subsidiary legislation under the Local Authority Ordinance and the Kuching Municipal Ordinance;
 - (b) all subsidiary legislation under the Local Government Elections Ordinance; and
 - (c) all subsidiary legislation made under any written law by, or having application within the area of, a local council.

Part V All other matters required to be published in the *Gazette* or published therein for public information.

These Parts are separately bound as Annual Volumes at the end of each year.

Sarawak law may be divided into the following classes—

- (a) certain Imperial Statutes and Orders of Her Majesty in Council which extend to Sarawak;
- (b) the Letters Patent of Her Majesty;
- (c) the Ordinances and subsidiary legislation enacted and made;
- (d) the Native customary laws of Sarawak or *adats*, some of which have been codified;
- (e) certain Imperial Statutes of general application which apply in Sarawak by virtue of the Application of Laws Ordinance (*Cap. 2*);
- (f) the Common Law of England subject to local law and conditions;
- (g) the doctrines of equity.

By far the most important Ordinance enacted during the year under review was the Public Health Ordinance, 1962, which sets out the law on this most important subject in full and includes the subsidiary legislation made under the Ordinance. This comprehensive piece of legislation puts Sarawak in the proud and fortunate position of having in force a law on public health which it is confidently felt is one of the most up-to-date in the whole of South-East Asia. The principle behind this legislation is central control on policy with a very wide delegation of its day-to-day operations to local councils. Provision has also been made so as to enable it to be modified to meet the varying conditions applicable in various areas of Sarawak.

Of the remaining legislation, several of the Ordinances (such as the Preservation of Public Security Ordinance, 1962, the Public Order Ordinance, 1962, the Trade Unions (Amendment) Ordinance, 1962, and the Societies (Amendment) Ordinance, 1962), tightened up our legislation on matters affecting public security and strengthened Government's hand in dealing with the various clandestine communist organisations. The need for the Preservation of Public Security Ordinance, 1962, was clearly shown as the result of the insurrection which broke out on the 8th

December, 1962. Within a few hours of the commencement of the insurrection, the Ordinance was applied and comprehensive regulations published. Between that date and the end of 1962 many Orders and some further regulations were made.

Other legislation enacted during 1962 amended the Criminal Procedure Code in several details, amended the law of evidence so as to make Sarawak law and practice on that subject the same as that in England, revised the law on banking and transferred the Sarawak Electricity Supply Corporation from a limited liability company into a statutory corporation.

In addition to all these, a lot of preliminary work has been carried out in the Attorney-General's Chambers in connection with the proposed Federation of Malaysia.

XII

LAW AND ORDER

JUSTICE

Introduction

A PART from Imperial legislation, whether by Order in Council or otherwise, the law of Sarawak is to be found mainly in local ordinances and Native customary law. Chinese customary law, chiefly in matrimonial matters and in relation to inheritance, is recognised to a limited extent, but only in so far as such recognition is expressly or by implication to be found in a local ordinance.

Where Sarawak law is silent, the Courts apply the common law of England and the doctrines of equity, together with English statutes to the extent permitted by the Application of Laws Ordinance (*Cap. 2*), in so far as the circumstances of Sarawak and its inhabitants permits and subject to such qualifications as local circumstances and Native custom render necessary.

The Supreme Court

On the 1st December, 1951, the Sarawak, North Borneo and Brunei (Courts) Order in Council, 1951, came into force. This Order in Council established one Supreme Court of Judicature, consisting of a High Court and Court of Appeal, for Sarawak, North Borneo and the State of Brunei. The Court of Appeal has its headquarters in Kuching, but sits as occasion may require in other places in Sarawak, North Borneo and Brunei.

The present disposition of the Judges is as follows: The Chief Justice at Kuching, the Senior Puisne Judge at Jesselton, North Borneo, and three other Puisne Judges, one at Kuching, and another at Sibü. One Judge is usually absent on leave.

During the year 149 criminal cases and 419 civil cases were heard and disposed of in the High Court as compared with 145 criminal cases and 351 civil actions heard in 1961. In the Court of Appeal five criminal appeals and sixteen civil appeals were heard as compared with nine criminal appeals and ten civil appeals heard in 1961.

Courts of Magistrates

The Courts presided over by Magistrates are—

- (a) Courts of Magistrates of the First Class or District Courts;
- (b) Courts of Magistrates of the Second Class or Police Courts which are known in their civil jurisdiction as Courts of Small Causes; and
- (c) Courts of Magistrates of the Third Class or Petty Courts.

Apart from three legally qualified magistrates who sit at Kuching and Sibü, the remainder are administrative officers who do magisterial work, in Kuching full time, and in other districts and outstations as part of their duties.

Under the provisions of the Courts Ordinance (*Cap. 42*), in the exercise of their civil jurisdiction Courts of Magistrates have jurisdiction in every civil matter whereof the value in dispute does not exceed in the case of the Magistrates of the First Class one thousand dollars or where the Chief Justice, by notification in the *Government Gazette* confers upon any magistrate special jurisdiction then in a Court presided over by such magistrate three thousand dollars; in the case of the Magistrates of the Second Class five hundred dollars; and in the case of the Magistrates of the Third Class one hundred dollars. Courts of Magistrates have no jurisdiction in proceedings in connection with the recovery of immovable property where there is a *bona fide* dispute as to title registered under the Land Code; application for partition of immovable property; the specific performance or rescission of contracts; the cancellation or rectification of instruments; the enforcement of trusts; or in connection with application for declaratory decrees.

In the exercise of their criminal jurisdiction the powers of the Courts of Magistrates are as provided in the Criminal Procedure Code (*Cap. 58*) as follows—

Courts of Magistrates of the First Class may pass a sentence of imprisonment for a term not exceeding twelve months and a fine not exceeding two thousand dollars, and where the Governor by notification in the *Gazette* declares that the Magistrate specified in such notification shall be a Stipendiary Magistrate, a Court presided over by that magistrate may pass a sentence of imprisonment for a term not exceeding three years and a fine not exceeding five thousand dollars.

Courts of Magistrates of the Second Class may pass a sentence of imprisonment for a term not exceeding six months or a fine not exceeding one thousand dollars.

Courts of Magistrates of the Third Class may pass a sentence of imprisonment for a term not exceeding three months or a fine not exceeding five hundred dollars.

The Court of any Magistrate may pass any lawful sentence, combining any of the sentences which it is authorised by law to pass.

Native Courts

Apart from the Courts mentioned in the preceding paragraph there are the Native Courts constituted under the Native Courts Ordinance (*Cap. 43*). These Courts are the District Native Court, the Native Officer's or Chief's Court and the Headman's Court. An appeal lies from the Headman's Court to the Native Officer's or Chief's Court, and from the latter to the District Native Court and then to the Resident's Native Court. A further appeal may be made to the Native Court of Appeal by way of a case stated on a point of law or Native custom. As a general rule the Native Courts are competent to try only cases in which all the parties are Natives, including cases arising from the breach of Native law and custom; civil cases where the value of subject matter does not exceed fifty dollars, and claims to untitled land.

Courts Generally

A comparison of the overall figures of cases tried in the lower Courts in 1962 and 1961 shows no substantial difference in the number of both criminal and civil cases heard. The incidence of crime, particularly serious crime, fortunately remains low.

There has been no important change in the organization of the Supreme Court during the year.

Taxation of Costs in High Court and Court of Appeal

The Chief Registrar heard and disposed of forty-four Bills of Costs submitted by successful litigants in pursuance of the Sarawak, North Borneo and Brunei (Scale of Costs) Rules, 1959, as compared with thirty-four such Bills in 1961.

Probate and Administration

The Chief Registrar in his capacity as Probate Officer at Kuching in respect of all estates, other than Malay and Dayak estates, assumed official administration of three deceased persons' estates as compared with two estates in 1961 in pursuance of the powers conferred upon him by section 3 of the Administration of Estates Ordinance (*Cap. 80* of the Revised Edition of the Laws of Sarawak, 1948). Of those estates which have been wound up by the Chief Registrar, the assets and property of the estates, after payment of the deceaseds' just debts and liabilities, are distributed to the heirs and beneficiaries according to the shares to which they are entitled by law and custom.

Three grants of probate and seventy-seven Letters of Administration were issued during the year as compared with five grants of probate and sixty-two Letters of Administration issued in 1961.

One re-sealing of a grant of probate was effected. There was also one such re-sealing made in 1961.

It is to be noted that elsewhere than in Kuching deceased persons' estates were dealt with by other Probate Officers under section 2 of the Administration of Estates Ordinance.

Lunatic Persons' Estates

In his capacity as Official Assignee, the Chief Registrar administered three lunatic persons' estates.

Bankruptcy

In pursuance of the powers conferred upon him under the Bankruptcy Ordinance (*Cap. 46*), the Chief Registrar heard and disposed of two bankruptcy petitions. The number of such petitions heard and disposed of in 1961 was four. These figures relate to the Kuching District only. Elsewhere in Sarawak such powers are exercised by the District Officer of each District.

Although some judgment creditors rely on either the High Court (Execution Proceedings) Rules and the Magistrates' Court (Execution Proceedings) Rules, as a machinery in obtaining payments from their debtors, in the case of recalcitrant debtors the tendency seems to indicate that creditors are inclined to resort to bankruptcy proceedings for the recovery of their moneys.

Deeds and Bills of Sales

In the Kuching District the Chief Registrar registered 2,152 documents under the provisions of the Registration of Deeds Ordinance (*Cap. 89*), which is now cited as the Hire Purchase Registration Ordinance (*Cap. 71*), as compared with 1,646 documents registered in 1961. The majority of these were hire purchase agreements, powers of attorney and other miscellaneous agreements.

Similarly fifty-six bills of sale were registered under the provisions of the Bills of Sale Ordinance (*Cap. 68*). In 1961 the number was forty-one.

Business Names and Limited Companies

The Chief Registrar as the Registrar of Business Names in the Kuching District and in his capacity as the Registrar of Companies in Sarawak registered 132 new partnership firms during the year as compared with 136 in 1961. The majority of these are dealers in general merchandise and groceries.

Fifty locally incorporated and eight foreign limited liability companies were registered under the Companies Ordinance

(Cap. 65), as compared with thirty-one and eleven respectively in 1961.

The classification of the fifty locally incorporated companies is as follows—

(a) Sawmillers	24
(b) General merchants	21
(c) Transport	2
(d) Shipping	2
(e) Electricity supply	1

The classification of the eight foreign incorporated companies is as follows—

(a) General merchants	4
(b) Insurance	3
(c) Banking	1

Patents and Trade Marks

Twelve grants of "Exclusive Privileges" were issued in 1962, all of these are United Kingdom patents. Twelve grants of "Exclusive Privileges" were also issued in 1961.

The Chief Registrar in his capacity as the Registrar of Trade Marks in Sarawak received and attended to 496 applications for registration during the year. Of these, registration of 325 marks was finalised. In 1961, 424 applications were received and 100 of these were finalised. Ninety-one renewals of registration of trade marks were effected during the year. In 1961 there were six renewals.

Trust

In the absence of a Public Trustee in Sarawak the Chief Registrar administers twenty-five trust estates. The majority of these was entrusted to him by orders of the Courts. The Chief Registrar also administers a trust estate created by the Will of a deceased person.

Court Fees, Fines and Departmental Revenue

Besides the usual departmental revenue and expenditure accounts, the Judicial Department at Kuching under the Chief

Registrar is also responsible for the keeping of the main accounts of the Unified Judiciary of Sarawak, North Borneo and Brunei. The volume of transactions under this heading remains to be heavy. Departmental revenue collected during the year amounted to \$213,227.57, as compared with \$216,673.46 in 1961.

Moneylenders

At the close of the year there were eleven moneylenders on the Register. There were ten in 1961. Two moneylenders' licences were cancelled during the year.

The Chief Registrar is the Registrar of Moneylenders in the Kuching District, and in districts outside Kuching the District Officer of each district is the Registrar.

Probation Service

Sarawak established its probation service as far back as 1949. There are now a Probation Officer and an Assistant Probation Officer in Kuching, and an Assistant Probation Officer in Sibü.

Probation, Kuching

In the course of the year under review a total number of forty-four cases of offenders were referred to the Probation Section for investigation of their home circumstances, by the Courts in Kuching and other Districts in the First Division. These cases, mainly adolescent youths and young adults, were dealt with in varying ways as shown in the following figures:—

Placed on probation of good conduct under the supervision of Probation Officer for six months to three years	28 cases
Bound over to be of good behaviour for varying periods	9 cases
Committed to the Sarawak Boys' Home	2 cases
Fined for varying amounts of money	4 cases
Postponed till 1963	1 case
Total	<hr/> 44 cases <hr/>

Among the twenty-eight probation cases, which were all boys and young men, twenty-five were juvenile offenders and three

young adults. A few of them have come from outstations in the First Division, but the majority were from the Kuching areas. Their present situations are as follows:—

Residing with parents and working outside	8 boys
Residing with parents and helping in domestic work	6 boys
Residing with parents and schooling	6 boys
Working and residing at place of work	6 boys
Residing at Salvation Army Boys' Hostel	1 boy
Escaped from place of custody, and is still at large	1 boy
Total	<hr/> 28 boys <hr/>

A total number of twenty-nine probation cases were brought forward from previous years for supervision in 1962. Among them twenty-four cases have completed the probation period satisfactorily. They are, at present, either attending schools or working, and they have returned to normal life at home or with the public. Four cases are still under supervision in 1963 because of their long term of probation periods. One case, however, committed breach of probation order, and was subsequently replaced on probation for a new term of one year.

Regular visits were made to the homes of probationers, and reports were received from them at regular or stated intervals. Cases of previous years were also followed up from time to time as a part of the aftercare service provided by the Section. Probationers who were in school were assisted in their lessons. Employment was also found for several boys.

Parole and Discharge

Ten boys were released on parole and three were discharged on normal release from the Sarawak Boys' Home in 1962. The Probation Office, Kuching, undertook the responsibility for making detailed arrangements for all boys from the Home to be properly received in their respective homes in various parts of the Borneo Territories. The majority of the boys returned to the Third

Division. For boys in Kuching supervision was undertaken during their period of parole, and thereafter general aftercare was extended as in all the discharged and post-probation cases.

Miscellaneous

A total number of fifteen miscellaneous Court cases, other than probation cases, were recorded in 1962. They were dealt with in the following ways:—

Committed to the Sarawak Boys' Home for a period from one to three years	2 cases
Bound over to be of good behaviour	7 cases
Fined for varying amounts of money	4 cases
Delivered to the care of parents	2 cases
Total	<hr/> 15 cases <hr/>

These fifteen cases were either hardened types of habitual youthful offender who were accordingly sent to the Sarawak Boys' Home, or very young offenders who, after considering their age and offence, were either bound over or fined for a nominal sum after due admonition.

During the year the general offences of all the offenders referred to this Section were as follows:—

Theft of property	33 cases
Voluntary causing hurt to human body	6 cases
Extortion	1 case
In possession of stolen property	2 cases
Others	2 cases
Total	<hr/> 44 cases <hr/>

It is noted that among all offences, theft of property remains predominant; while violation against the human body comes second in position.

Probation, Sibul

During the year thirty-three cases of offenders, including one for breach of the Road Traffic Ordinance, were referred to the Probation Section for investigation of their home background by

the courts in Sibu, as well as those in Binatang and Sarikei. Three cases were adjourned till 1963. Offences against property predominated. Twelve offenders were adults of ages ranging from nineteen to sixty-five years; the rest were juveniles between the ages eleven and eighteen years. Two cases, one involving an adolescent girl, related to activities of an unlawful society, to wit, the Clandestine Communist Organisation (CCO). She and another girl, convicted of theft, were put on probation of one year each.

The following figures show how the cases were disposed of:—

Placed on probation of good conduct under the supervision of probation officer from six to eighteen months	16 cases
Released to the care of parents or guardians to be of good behaviour for varying periods of up to one year	4 cases
Fined	2 cases
Committed to Sarawak Boys' Home	5 cases
Sentenced to imprisonment	3 cases
Postponed till 1963	3 cases
Total	<hr/> 33 cases <hr/>

Of the sixteen cases put on probation, only two were adults. Ten cases were brought forward for supervision from last year's case-load, making a total of twenty-six. In the course of the year eight boys completed their probation period without mishap, whereas unfortunately three were subsequently committed to the Sarawak Boys' Home and three to imprisonment for commission of fresh offences and/or for breaches of the probation order. This unhappily brought the number committed to the Sarawak Boys' Home to eight, and to imprisonment, six. The percentage of success as compared with that of failure is negligible, being 57 per cent as against 43 per cent. Twelve cases therefore remained under supervision at the end of the year. Of this figure, one boy was residing in the Boys' Hostel, two were at school, three—one a girl—were in gainful employment, three were self-

employed and the remaining three were in casual work or assisting in household chores.

Regular visits were made to the homes of probationers and reports, at stated intervals, were received from them.

Parole and Discharge

Eight boys were released during the year from the Sarawak Boys' Home on parole or on the completion of their period. One boy was from Igan, one from Kanowit and one from Binatang. They were returned to their homes. The rest were from Sibu. Supervision was undertaken on boys released on parole as well as aftercare service which was extended, as far as was possible, to the discharged cases. They appeared to settle in well and no adverse reports were received.

Miscellaneous

The Probation Section continued to give advice and assistance to parents and guardians on the care and treatment of their 'budding' wayward children, and to other clients on a variety of problems. In addition to *referrals* in respect of welfare relief, it also assisted the courts in conducting social investigations of various natures.

Seven court cases were thus referred during the period under review. These included three cases brought up under the provisions of the Children and Young Persons Ordinance, 1959. Two cases involved young girls deemed to have been exposed to moral danger. They were consequently committed to the care of the Salvation Army Girls' Home in Kuching for periods of one and two years. One case concerned a paralytic boy. It was arranged that he should reside in the Sibu Boys' Hostel. Two cases were in connection with matrimonial disputes, and the other two were referred from Kuching for investigation.

In-service Training

The system of training which this Department introduced in 1958 whereby Registrars and Assistant Registrars stationed in North Borneo and Brunei are to have the opportunity of working in the Supreme Court at Kuching for a few months has worked out very well. Brunei was the first to take advantage of the

scheme by sending the Assistant Registrar at Brunei Town to Kuching for training for three months, followed by the Registrar of the Supreme Court at Kuala Belait.

Simanggang has also sent their Court Interpreter to study court procedure.

When conditions permit it is expected arrangements will be made for Court Interpreters in other districts of Sarawak to take advantage of the training.

Establishment

The Chief Justice, Sir John Ainley, M.C., left Sarawak on the 13th December, 1962, on transfer as Chief Justice of Kenya, Africa. His Lordship's successor, Mr. Justice Campbell Wylie, is expected to arrive in Sarawak about mid-January, 1963.

CONSTABULARY

General

The Sarawak Constabulary was formed on 1st January, 1932, by the amalgamation of the Sarawak Rangers and the Sarawak Police. The former was a purely military force with an establishment of 612 all ranks and the latter an armed police force of 1,007 all ranks. This decision to amalgamate was taken for reasons of economy, and at the end of 1931 the strength of the two forces had been run down to 1,243.

In 1932 the strength of the Sarawak Constabulary was provisionally fixed at 859. In the same year village constables were appointed to perform police duties in minor stations. They were not a part of the regular Constabulary and were engaged by officers of the Administrative Service under whose sole charge they performed their duties.

The employment of village constables was not a success and in 1938 they were disbanded. The strength of the Constabulary was then increased to 1,000 to enable the duties formerly performed by the village constables to be taken over.

Under the terms of a Constabulary "Order" in force in 1940, the Constabulary was required to take lawful measures for the military defence of the State and the suppression of armed insur-

rections in addition to normal civil police duties. The training therefore included, and still includes, instruction in the use of arms.

In 1940 the Constabulary was divided into two main units, Force 'A' and Force 'B'. Force 'A' consisting of 900 all ranks was responsible for civil police duties and provided armed guards and escorts at the principal stations throughout the State. Force 'B' consisted of 100 all ranks made up of three platoons of Dayaks and was employed on para-military duties in much the same way as the Field Force is today.

According to Constabulary Regulations in 1940 all new recruits had to be literate. It was not possible to implement this regulation and, in fact, it was not until 1958 that it was possible to record that no illiterate men had been recruited into the regular police. On the other hand, illiterate recruits are still encouraged to join the Field Force where literacy is not essential.

On Cession Day, July 1st, 1946, the strength of the Constabulary was 1,079. The devastation caused by enemy occupation of Sarawak had left its mark on the Force; the first eight years after Cession brought little improvement in general standards. Pay was low; equipment was poor and in short supply; the standard of education of the average member of the rank and file was negligible.

The next eight years from 1954 saw a general improvement. Secondary school boys began to make the police a career, and in 1960 it became possible to insist on a minimum educational standard of Primary VI in English or Malay for recruits.

One of the obstacles to a well-balanced efficient Constabulary has been the failure of the Chinese to seek a police career. Year after year appeals have been made to attract Chinese to join the Constabulary, with no real response. In 1940 there were twenty-three Chinese in the Force. By 1959 the number had risen to 103, since when the number has remained static. The 1955 Constabulary annual report records "one aspect of recruiting which gives rise to disquiet is the almost complete lack of interest of the Chinese in a police career. Since very nearly one third of the population is Chinese it is not too much to expect that

about the same proportion of the Force should be Chinese. Poor rates of pay are generally put forward as the reason for this lack of interest. It is more likely that a traditional distaste for police work and a dislike of discipline by many young Chinese are the chief drawbacks to Chinese recruitment. If standards of efficiency in the police are to keep pace with general development in Sarawak and with the march towards self-government, and if the Chinese are to take their right place in this development, they must be encouraged to enlist''. One general rise in salaries since that statement was made has not resulted in any appreciable increase in the number of Chinese in the Force, and these observations made in 1955 apply with even greater emphasis in 1962.

Disturbances

The normal peace of Sarawak was shattered by the outbreak of a rebellion in Brunei in the early hours of December 8th and simultaneous attacks on Limbang in the Fifth Division and Bekenu in the Fourth Division by Kedayans and persons of other races with Brunei sympathies. Some of the instigators of the insurrection in Northern Sarawak were Brunei Malays and other persons domiciled in Brunei.

The attack on Limbang was pressed home with fierce intent by an estimated 350 rebels armed with shotguns. The police station was taken after a very gallant defence which lasted for over four hours and which only ceased when the Resident, who was forced at gunpoint to do so, ordered the three surviving police to surrender as further resistance was futile.

Four policemen died in the defence of the police station. Six rebels were killed and an unknown number were injured. There were no police casualties in the rebel attack on Bekenu.

Military reinforcements—a detachment of 42 Commando Royal Marines re-captured Limbang on December 12th suffering five men killed and four wounded. The rebels lost fourteen known killed. At the end of the year, some 250 known rebels had been captured or had surrendered in Limbang and over 400 in the Bekenu area. About 100 rebels were believed still to be lying up in thick jungle areas in the upper reaches of the Limbang

river and in the Temburong District of Brunei, not many miles north-east of Limbang town.

The repercussions of the rebellion are likely to be felt for a long time to come. Police resources have been stretched far beyond normal capacity and a considerable expansion will be necessary to cope with extra commitments. The call out on December 8th of Field Force Reservists and the magnificent response of irregulars and Home Guard in the early stages of the revolt helped to confine the rebels to two main areas of trouble.

All units of the Force responded magnificently to the many calls for long hours of extra duty which the rebellion entailed. These calls will continue until the inevitable expansion of the Force becomes effective.

Ceremonial

Guards of honour were mounted on the following occasions during 1962:—

- 12.3.1962 — For the Honourable the Chief Justice, Sir John Ainley, M.C., on the occasion of the opening of the first Court of Appeal Sessions for 1962.
- 18.8.1962 — For Lord Lansdowne, Minister of State for Colonial Affairs.
- 12.10.1962 — To mark the return from leave of Sir Alexander N. A. Waddell, K.C.M.G., D.S.C., Governor and Commander-in-Chief of Sarawak.
- 20.11.1962 — For Tengku Abdul Rahman, Prime Minister of the Federation of Malaya.

A number of other guards of honour were mounted in various stations during the year. Ceremonial parades to celebrate the Birthday of Her Majesty the Queen were held in Kuching and many other stations. An innovation on the parade held in Sibul was the use of "canned" music taped by the Sarawak Constabulary Band and synchronised to parade commands. A Field Force guard of honour was mounted at the War Memorial in Kuching on Remembrance Day, November 11th, 1962.

The following ships of Her Majesty's Navy and the Royal Malayan Navy visited ports in Sarawak during 1962:—

27.5.1962 — A squadron of Royal Malayan Navy vessels comprising K.D. Mahamiru, K.D. Langkasuka, K.D. Temasek and K.D. Seri Perlis.

4.7.1962 — The Minesweepers H.M.S. Puncheston and H.M.S. Darlington.

23.11.1962 — H.M.S. Dampier, a Survey Ship.

12.12.1962 — H.M.S. Alert, H.M.S. Tiger and two Minesweepers, H.M.S. Woolaston and H.M.S. Wilkinston on emergency operations.

17.12.1962 — H.M.S. Albion on emergency operations.

An Imperial Defence College team visited Sarawak on the 12th August and paid a visit to Field Force Headquarters where a demonstration of jungle operations was given.

A representative Police football team from Pontianak in Indonesian Borneo visited Kuching in the first week of October and played a number of matches against the Police and other representative teams. The Pontianak team won for the second time the shield presented in 1961 by the Commissioner, Sarawak Constabulary, for annual competition.

The Chief of Staff, Federation of Malaya Armed Forces, Lieutenant-General Sir Rodney Moore, K.C.B., K.C.V.O., C.B.E., D.S.O., P.M.N., visited the Police Training School and Field Force Headquarters in July.

The Commander-in-Chief Far East Land Forces, General Sir Nigel Poett, K.C.B., D.S.O., visited the Field Force Camp at Sibu in September.

The Director of the Royal Thai Army Signal Corps Radio Broadcasting Stations, General Suravardhana, and two of his staff officers visited Field Force Headquarters in November.

The fourth of a series of police tattoos which are held every two years was staged in August at Constabulary Headquarters as part of the Sarawak Festival. The Band of the 2nd King Edward VII's Own Gurkhas (the Sirmoor Rifles) and the Kuching Fire Brigade participated. At the dress rehearsal handicapped children from the Salvation Army Home, lepers from the Rajah Brooke Memorial Hospital, inmates of the Boys' Home and a number of

spastics and blind children were the guests of the Force. The Boy Scouts Association of Kuching assisted the Police in crowd control with their customary efficiency.

Establishment and Strength

The authorised establishment was decreased by twenty-nine to a total of 1,436 all ranks as the result of the withdrawal of the Field Force platoon from Brunei at the end of 1961. This platoon had been seconded to assist the Brunei Police in the maintenance of law and order since 1955.

When Sarawak was ceded to Britain in 1946 the establishment was 1,079. The increase by 357 in the next seventeen years is mainly the result of the formation of a Field Force in 1953. The authorised strength of the inspectorate rose from seventeen in 1946 to seventy-nine in 1962 and gazetted ranks from seven to thirty-four in the same period.

The Brunei revolt has emphasised the need to strengthen the police and steps to that end were under discussion at the close of the year. Increases, although for some time thought desirable, had to be resisted owing to the strain on the economy and the need to spend large sums in capital expenditure on improving living and working accommodation and on transport and radio communications for the establishment already authorised.

Casualties

One of the major problems since the last war has been the high rate of casualties as the result of resignations and discharges. Since 1946 casualties from all causes have amounted to 2,613 or an average of 154 a year. This has sapped the strength of the Force and has resulted in the tying down of an abnormally large number of experienced men on instructional duties.

As a result of these losses the number of men with ten or more years of police experience has been lower than it should be. However, there has been an improvement during the last five years when the average yearly losses fell to 120; in 1961 and 1962 they reached a record low average of 101. It is interesting to note that whereas in 1960 only 17 per cent of the Force had ten or more years police experience, by the end of 1962 the percentage had risen to 27.

Low salaries and poor accommodation have been some of the causes of resignations in the past. Improvements in general conditions of service in recent years are slowly but surely encouraging men to stick to a police career once they have enlisted.

Recruiting

Sixty recruits were enlisted during 1962 into the regular police and thirty into the Field Force. This is the lowest intake since the war. One recruit had passed the Overseas School Certificate Examination and twenty-five had received a secondary school education.

Training

Three squads of seventy-three recruits in all passed out from the Police Training School to full police duties during the year.

Three promotion courses were held and as a result twenty-three constables were promoted to corporal and four corporals to sergeant.

Six refresher courses were held; fifteen corporals and 183 constables attended them. Most of these courses were taken by men who had previously passed a shortened recruits' course and had returned to the Police Training School for two months' "topping up" after nine months on full police duties.

Twelve selected men successfully completed a six months' leadership course and were promoted to the rank of probationary inspector in March, 1962. These courses are designed to bring out the qualities of leadership and initiative in cadets and other members of the rank and file who have the right qualifications for promotion to the inspectorate. If they pass the exacting tests which are given both at Field Force Headquarters and the Training School, they are promoted as vacancies occur and normally serve one year's probation before they are confirmed in the rank of inspector.

A leadership course which started on November 1st had to be suspended temporarily in December owing to the emergency caused by the rebellion; candidates had completed the Field Force section of the training.

Auxiliary Constabulary

The Auxiliary Constabulary was first formed in 1939 and was then known as the Constabulary Reserve. At the outset the approved establishment was 200. Enlistment to the Reserve was confined to non-commissioned officers and men with previous service in the Constabulary, the Sarawak Rangers, the Sarawak Police or any of the colonial police or armed forces.

After the war the name of the unit was changed to Special Police and the authorised strength was raised to 500. In 1951 the name was again changed to Auxiliary Constabulary. This second change of name was made on the grounds that the word "special" had caused some people to confuse this volunteer force with the special branch side of Police work. At the same time membership was broadened to include persons with no previous police or military service.

In 1960 the Auxiliary Constabulary was reorganised into three units—the Field Force Reserve, the Oilfields Reserve and the Police Reserve. By the end of 1962 the Field Force Reserve had been increased to six platoons comprising a total of 232 non-commissioned officers and constables. All members attended one of a series of training camps of three weeks' duration in Kuching, Sibü or Miri during 1962. On the 8th December, the call out of the reserve resulted in 187 men reporting to the various centres for duty before the end of the year.

The Oilfields Reserve was forty strong at the end of the year. A training camp was held for one week in July. Members were called out for duties in Miri during the emergency and were of valuable assistance to the regular police in guarding oil installations when the rebellion was at its height.

A uniform branch unit comprising a number of specialists trained in marine, radio and transport duties is to be organised. The intention is to use these specialists in support of the regular police units in an emergency.

Combined Military/Police Exercises

The two Reserve units are now well organised and provide a valuable supplement to the Field Force. Their worth has already been proved in the emergency.

Three combined military and police exercises were held in Sarawak during 1962. In the Third Division on the 18th July, 480 men of 40 Commando Royal Marines were flown in by helicopters from H.M.S. Bulwark to join the Police in an internal security exercise which lasted two days and covered the Sibu, Sarikei and Binatang areas.

The second exercise involved the flying in of two companies of the 1st Battalion the Queen's Own Highlanders to Kuching on the 15th August. A full-scale internal security exercise of forty-eight hours' duration was held in conjunction with the Police in the Kuching town area. This was followed up by joint military/police patrols in many areas of First and Second Divisions.

The third exercise was held in the Second Division and involved parachuting Gurkhas and Sarawak Rangers on the 14th September into Engkilili to aid the Police in an internal security role. The sight of Sarawak Rangers parachuting in made the Field Force keener than ever to learn to drop. The exercise finished on the 29th September with extensive patrolling in the Second and Third Divisions. The exercise was marred by the death through drowning of a Gurkha soldier when a boat capsized in turbulent river waters.

Some valuable lessons were learned from these exercises and the troops were able to familiarise themselves with conditions in Sarawak.

Buildings

The cost of the 1962 Police Building Programme was \$1,324,309 including a sum of \$832,179 revoted from the 1961 programme. It is anticipated that the value of works to be carried forward to 1963 will be \$280,666. The programme completed in 1962 is the largest in any one year since the war.

Three blocks of flats comprising forty-eight other ranks' married quarters were nearing completion at the end of the year. A divisional headquarters building at Simanggang was completed and handed over. A new police station at 18th Mile on the trunk road from Kuching was nearing completion at the end of the year.

Thirty-two other ranks' married quarters at Kuching and Sibuan were also under construction at the end of the year. Work had not started on six married quarters at Simunjan.

Crime

There was in 1962 a substantial overall increase in crime, mainly in the First Division. Offences covered by the Penal Code rose by 15 per cent as compared with 1961; housebreakings increased by 2 per cent and other thefts by 23 per cent. Thefts of bicycles accounted for most of this increase; in Kuching 233 bicycles were reported stolen in 1962, as compared with 167 in the previous year. Fifty-four were recovered in 1962. This overall increase in crime does not include offences directly connected with the insurrection in Northern Sarawak.

Unsettled conditions in Indonesian Borneo during the year attracted thieves into Sarawak, and a number of Indonesian illegal immigrants were convicted for stealing.

There has been a negligible increase in the number of juveniles convicted of Penal Code offences; 113 juveniles were convicted in 1961 and 117 in 1962.

The number of murders committed in 1962 fell by nine to a total of twelve. By the end of the year two of these cases remained unsolved. This total does not include nine members of the security forces killed in action during the insurrection.

The number of shooting accidents involving death or injuries fell to twenty-three in 1962 as compared with twenty-eight in 1961. It is encouraging to note a steady decrease in the careless use of shotguns as the years go by.

Traffic

The number of traffic accidents reported to Police rose by 4 per cent to a total of 811 in 1962. This figure is only very slightly higher than the total for the year 1958 and gives no cause for concern, taking into account a statutory obligation on the part of users of vehicles to report to the Police any road accident in which they are involved.

Nine persons were killed in road accidents in 1962. This is the lowest number of fatalities recorded since 1958.

106 pedestrians were involved in road accidents, of whom fifty-six were children under the age of sixteen years.

Road safety campaigns were held in the three main towns and police officers lectured schools on safe cycling. The comparatively small number of road accidents is mainly due to the care which motor drivers are obliged to take to avoid trouble, particularly in congested town areas where the road behaviour of cyclists leaves much to be desired. Cyclists, young and old, take advantage of narrow roads to obstruct faster moving traffic and to perform the most dangerous manoeuvres in the knowledge that drivers must proceed slowly because of the hazardous conditions the cyclists themselves mainly create. It is believed that constant chivvying and lecturing by the police is having some effect on younger cyclists, but it is a slow business.

In Kuching the number of motor vehicles licensed rose by 1,065 to a total of 6,705 in 1962. This increase has been fairly constant over the past three years and adds to the congestion in a town which was not planned to provide adequate facilities for driving and parking.

It is of interest to note that in 1952 the number of motor vehicles licensed in Kuching was 1,358. In that year 13,200 bicycles were licensed; in 1962 the number had risen to 14,344.

Lockups

Twelve lockups appointed by the Chief Secretary for the confinement of persons sentenced to terms of imprisonment not exceeding one month and five for the confinement of remand prisoners were maintained by the Police during 1962. 143 prisoners served their sentences and 819 were held on remand in lockups during 1962.

Societies

The Commissioner, Sarawak Constabulary, is the Registrar of Societies.

521 Societies were on the Societies Register on 31st December, 1962. Fifty-nine societies were registered during the year and eight new registrations were under consideration at the close of 1962. The registrations of the First Division Joint Council of

Chinese School Boards of Management and the Third Division Joint Council of Chinese School Boards of Management were cancelled on the ground that these organisations were being used as communist front organisations.

PRISONS

Staff

The prison staff on 31st December, 1962, consisted of one Superintendent, one Assistant Superintendent, four gaolers, fifty-nine warders of all grades and three wardresses; this was one below strength.

Prison Population

Nine hundred and forty-seven men and twenty-five women were admitted during the year. This figure included the detainees detained as a result of the Brunei revolt.

Recidivism

There were nine recidivists among the 554 prisoners still serving at the end of 1962. The total for the year was twenty-five.

Prison for Women

The daily average of female prisoners was six. They were mainly employed in basket-making, gardening and sewing.

Open Prison—Pending Farm

This farm, 2.16 acres, more or less, is about four miles from the Central Prison. The daily average of thirteen selected offenders were housed there. They were employed in planting vegetables. The farm produced a daily average of twenty-one katis of vegetables.

Spiritual Welfare and Education

Prisoners who are members of the Anglican and Roman Catholic Churches attended Sunday Services in the main office, which is used as a Prison Chapel, and religious instruction was given by their respective ministers. Five young prisoners were permitted to attend Easter and Christmas Services at St. Thomas's Cathedral. They wore civilian clothes and were accompanied by warders who also wore civilian clothes. The five young prisoners

also attended morning class daily where they were taught to read and write in Romanised Malay.

Muslim prisoners were given facilities to say their prayers in the prison. They also attended lectures given by a lecturer on Muslim Religion from the Majlis Islam.

Prisoners who are keen on education are taught to read and write Romanised Malay at evening classes which are held three times a week.

Library and Organised Games

The library, where reading matter in English, Chinese, Malay and Iban is provided, was very popular, and so were badminton, table tennis and draughts. Prisoners were permitted to make their guitars, violins and ukeleles during their spare time on Saturdays in the prison workshop. Radio listening was permitted between 6 and 9 o'clock nightly, and Radio Sarawak was always the favourite station. The Information Office gave monthly cinema shows in Kuching Prison, and these were always well attended.

Health

Health was good. Three prisoners were admitted to hospital and one to the Sarawak Mental Hospital for treatment which could not be given in the prison hospital, where all minor cases were treated.

Twenty-five prisoners gave thirty pints of blood to the British Red Cross Society.

Labour

The following were the trade parties:—

Carpentering (furniture, house and boat-building), tin-smithing, tailoring, vegetable-planting, blatt-making, laundry, basket-making and reseating of chairs.

Other parties were employed in work on Government compounds.

Visits

The visiting Justices paid monthly visits to the prisons, and reported favourably on the compounds and prison buildings, and on the treatment of prisoners. The Chairman of the Prisoners'

Aid Society, Mr. F. James, M.B.E., and a member of the Salvation Army visited Kuching Prison every month and interviewed prisoners before their release. Where necessary, money, clothing and food were given to them and their dependants.

Execution

There was one execution.

Remission

Remission of one-fourth of a sentence is granted to male and female prisoners serving a sentence exceeding one month.

Revenue

The market value of articles made by prison industries, including garden produce, was \$64,742.37, compared with \$77,729.82 for 1961.

SARAWAK BOYS' HOME

The Sarawak Boys' Home, at Sungei Priok on the Pending Road near Kuching Town, was established in 1948. At the end of 1962, there were twenty-nine boys at the Home. Their ages ranged from twelve to nineteen years. There were no serious breaches of discipline.

Building

For the first time since its establishment the Home dormitories were made mosquito-proof. As mosquito nets cost about \$9.00 a piece, this is a great saving in expenditure. In terms of convenience and comfort, this is indeed a great relief.

Staff

One additional Home Officer was engaged on 1st May, 1962. For the first time since the Boys' Home was formed, the Home employed one Technical and Handicraft Instructor. He was appointed on 1st September, 1962.

Religious Instruction

A Muslim religious class was conducted four nights a week by the teacher of the Boys' Home. The Malay boys attended services at the Mosque every Friday and participated in the celebration of the Prophet Mohammed's Birthday. Christian boys

of the Church of England and Roman Catholic Churches attended Sunday Services and other Church festivals at their own Church.

Health

The health of the boys was good. One boy who was suffering from epilepsy was admitted to the Sarawak Mental Hospital for observation. The Home was regularly visited by a Medical Officer.

Home Activities

The boys played football, basketball, badminton and rounders. Table tennis and other indoor games were also provided. During the year camping and visits to places of interest were regularly organised for the boys by the Home staff.

The Information Service film unit gave monthly cinema shows at the Home, and the boys were also permitted to attend local cinemas without charge for which the generosity of the management of the Cathay Cinema and of Mr. William Tan, C.B.E., owner of the Odeon Cinema, was very much appreciated.

The Annual Christmas Party was held at the Home on the 15th December, 1962. Lady Waddell and Mr. Ong Kee Hui, President of the Kuching Municipal Council were present. A concert and an exhibition of plants, arts and handicrafts produced by the boys were also held. Lady Waddell kindly gave away the Christmas gifts to the children of the Salvation Army Girls' Home and to the boys and children of the staff of the Home.

Occupation

The boys were taught basket-making, carpentry, tailoring, fruit-growing, fish-breeding, vegetable planting and poultry farming, and in their leisure hours, model-making. The Home was self-sufficient in vegetables and eggs and the surplus was sold for the benefit of the Amenities Fund.

Good Conduct System

This provided good conduct money at the rate of \$1.20, \$1.00 and \$0.80 a week for any boy according to his work and conduct.

Advisory Board and Parole

This Board, established in 1950, with the Director of Education as Chairman and six members appointed by His Excellency

the Governor, held monthly meetings to review the progress made by those boys who had completed their first year of detention, and to make recommendations to the Chief Secretary for release on parole. The Probation Officer also attended the meetings and reported on home circumstances and other relevant matters.

Amenities Fund

This fund obtains its revenue from donations, sale of surplus eggs, vegetables, fruits, plants and handicrafts produced at the Home. Interest from the Post Office Savings Bank was also credited to this fund. Revenue for the year amounted to \$3,797.86.

The fund is held under the control of the Superintendent of Prisons. Some of the money is used for entertainments at Christmas and New Year celebrations.

XIII

PUBLIC UTILITIES AND PUBLIC WORKS

WATER SUPPLIES

THE control and management of water supplies in Sarawak is vested in a Water Authority except in the larger urban areas of Kuching and Sibü, where Water Boards have been formed.

The Kuching and Sibü Water Boards, under the Chairmanship of the Director of Public Works, have their powers conferred on them by the Water Supplies (Amendment) Ordinance which became effective on 1st January, 1959, while the Water Authorities are under the immediate control of the Public Works Department Divisional Engineers' organisation with the Director of Public Works gazetted as the Water Authority.

In the immediate postwar period, the rehabilitation of existing facilities was the first and most important task. This was followed by immediate action to meet the increased supply demands.

Kuching Water Board

Prior to the establishment of the Kuching Water Board, the relaying of the Matang pipe-line, as replacement of main laid in 1926, and increase of the storage capacity to its present limit of 3,700,000 gallons, was completed.

The Kuching Water Board was established on 1st January, 1959, and the period 1959 to 1962 has been one of steady progress and growth.

The average daily quantity of water supplied has risen from 2,177,956 gallons in 1959 to 2,404,363 gallons in 1962 and the number of service connections to the Board's mains rose from 4,472 to 6,432 during the same period.

Good progress has been maintained with mains renewals and development programmes, and with 10.24 miles of new mains laid and 1.28 miles of mains renewed in 1962, it is anticipated that the planned main distribution system will be completed in 1963.

The development of the water supply within the Board's area has now progressed to such a stage that the Board is in a position to consider requirements outside the present statutory boundaries, and a proposal for the extension of the statutory boundaries has been made. It is anticipated that the proposed scheme will meet the normal future development of Kuching and the surrounding area within the next ten years.

The Board has in hand a capital works programme to increase the capacity of the existing waterworks at Batu Kitang by 50 per cent to 3,150 gallons per minute and to construct, at a site below Matang Dam, an entirely new water treatment plant of 2,000,000 gallons per day capacity. This will ensure a fully treated water supply of the highest standards of purity to the whole of the Board's supply area.

A total of 4,162 samples were received during 1962 for chemical and bacteriological examination and these analyses covered every aspect of water treatment and distribution.

The charges for water during 1962 have remained unchanged as follows:—

Domestic	\$1.25 per 1,000 gallons
Domestic/Commercial	\$1.50 per 1,000 gallons
Commercial	\$2.00 per 1,000 gallons

These charges have, in accordance with established policy, been kept under constant review by the Board and with effect from 1st January, 1962, it was possible to reduce the minimum charge for the Domestic rate from \$3.00 to \$2.50 for water supplied up to 2,000 gallons in any one month. Since the Board's inception in 1959, progress may be summarised as follows:—

Over thirty-one miles of new mains have been laid and four miles of mains renewed.

The daily average consumption has risen from 2,117,956 gallons to 2,404,000 gallons.

The total number of services has increased from 4,472 to 6,409.

The production of fully treated water has risen from 42.54 per cent to 92.44 per cent.

Water accounted for on consumers' meters has improved from 78.11 per cent to 88.82 per cent.

Sibu Water Board

Prior to the establishment of the Sibu Water Board the construction of a new treatment plant of capacity of 750,000 gallons per day, the replacement of some of the existing mains of approximately 13,800 feet and the enlargement of the clear water storage from 76,000 gallons to 152,000 gallons were completed.

The water supply to Sibu was maintained, and extended, satisfactorily by the Sibu Water Board during 1962. The Board's Annual Report during the year and the accounts showed a sound position.

The Board reviewed the charges for water and decided to reduce the minimum charge for domestic supplies to \$2.50 for water supplied up to 2,000 gallons in any one month. This was in order to assist the poorer members of the community, and came into effect from 1st January, 1962.

Work advanced well on the Lanang Road 15-inch trunk main and with 12,190 feet of new mains and 9,993 feet of mains renewed in 1962, it is expected that a five-year development programme which started in mid-1959 will be completed in 1964.

The average daily quantity of water supplied was 824,000 gallons. The supply is fully treated and the water conforms to International Standards for drinking supplies. Weekly samples were despatched by air to the Chemist/Bacteriologist in Kuching, a total of 420 bacteriological examinations and 402 chemical analyses being carried out.

During the year 253 new services were connected and after taking into account disconnections the number of services at the end of 1962 was 2,918. The system is a fully metered one and 94 per cent of water leaving the treatment plant was accounted for on consumers' meters.

Since the Board's inception in 1959, progress may be summarised as follows:—

Over 75,528 feet of new mains have been laid.

The daily average consumption has risen from 550,000 gallons per day in 1958 to 824,000 gallons per day in 1962.

The total number of services has increased from 1,616 to 2,918.

Water accounted for on consumers' meters has improved from 77 per cent to 94 per cent.

WATER AUTHORITIES — FIRST DIVISION

Lundu

The supply was commissioned in August, 1959, and is a gravity supply, chlorinated. During 1962 the average daily consumption was 26,500.

Santubong

This is a small supply commissioned in December, 1957, and is now a chlorinated raw water supply.

Serian

A fully treated gravity water supply. The water treatment plant was put into commission on 19th March, 1962. A water tower at the far end of the town has been erected and will be put into service this year. The average daily consumption has been 22,000 gallons per day.

WATER AUTHORITIES — SECOND DIVISION

Simanggang

The supply draws its water from three boreholes which requires treatment for removal of iron. The daily consumption has averaged 99,900 gallons per day in 1962. Plans have been prepared for the development of an additional source of supply from the river. The supply was commissioned on 15th October, 1960.

WATER AUTHORITIES — THIRD DIVISION

Mukah

A fully treated water supply receiving its water from the Sungei Petanak, the raw water being pumped to the treatment plant situated near Mukah; consumption during the year averaged 62,200 gallons per day. Proposals for further improvement of the supply have been submitted to Government. Connections to the water supply number 221.

Sarikei

The source of supply is four boreholes, fully treated. Average daily consumption is 69,000 gallons per day. There are 308 private connections. The supply was commissioned on 15th November, 1960.

Binatang

A treated water supply from three boreholes with a designed capacity up to 150,000 gallons per day. Consumption during 1962 averaged 29,000 gallons per day. This supply was commissioned on 15th June, 1961. Towards the end of the year there were 157 connections.

Kapit

A fully treated water supply taking water from the Rejang River and treated by flocculation, sedimentation, filtration and chlorination. The supply was brought into service in August, 1961, and the water supplied conforms to International Standards of purity. Plans have been prepared for the extension of water mains in the Kampong area. Daily output during 1962 averaged 38,000 gallons per day, and connections numbered 130.

Kanowit

This supply was commissioned on 25th November, 1962; a fully treated water supply having a capacity of 50,000 gallons per day.

Song

A scheme has been prepared and is under consideration by Government.

WATER AUTHORITIES — FOURTH DIVISION

Miri

Treated water is purchased in bulk from Sarawak Shell Oil-fields Limited and distributed to consumers through the Water Authority's mains. Plans prepared for further development of the supply have been approved. During 1962 the daily consumption averaged 377,168 gallons.

Bintulu

There has been a water supply in existence for some twenty-six years, but it had become inadequate and extensive works of improvement are in hand. The supply was a gravity supply from the Sungai Nyabau some four miles from the town, but pressures were low. The water is chlorinated, and plans for full treatment, and for boosting water to a high level tank, have been prepared. Work is in hand on the extension of the Nyabau dam, in providing a booster station and re-aligning and renewing parts of

the water distribution system. Site borings have been taken with a view to the construction of a new water tower.

Marudi

This water supply came into service in April, 1961, and is a fully treated water supply from the Baram river. The water consumption during 1962 has averaged 30,600 gallons per day.

WATER AUTHORITIES — FIFTH DIVISION

Limbang

This is an old gravity supply and is chlorinated. New works comprising a treatment plant for full treatment, and a water tower, have been designed and approved and construction will commence shortly. Work on the distribution system has been completed and it is expected to complete the whole scheme at the beginning of 1964.

Lawas

A gravity and chlorinated water supply scheme has been prepared, and was approved by the Government just before the end of 1962. Phase I of the scheme consists of a treatment works for full treatment, high level reservoir, and some extension to the water distribution system.

General

All supplies both from the Boards and Authorities have been under constant laboratory supervision by the Chemist/Bacteriologist, which branch has been established in the Public Works Department since 1958 to ensure that all supplies are chemically and bacteriologically satisfactory. The branch is also responsible for carrying out investigations as necessary for future treatment plant.

In addition to the above mentioned water supplies, the Public Works Department also supervises a large number of small water supplies to Government Institutions. These small water supplies have an average capacity of 10,000 to 15,000 gallons per day.

This achievement, in the sixteen years which have elapsed since cession, is all the more remarkable when one considers the improvements that have been established in all phases of water supply operation, from intake and headwork improvements

to distribution and laboratory control of supply and the number of new supplies that have been brought into operation.

Chemical and Bacteriological Laboratory Service

Although handicapped by staff shortage and laboratory space, the volume and scope of analytical work which commenced with the formation of the Chemist/Bacteriologist Branch of the Public Works Department in 1959, continued to increase rapidly. A total of 12,369 samples were analysed during the year, showing a twelve-fold increase over the number of samples analysed in the first year of operation, and amounting to 1,386 samples more than the previous year. The bulk of these samples were examined in connection with the provision of pure drinking water supplies throughout the country. Also, the laboratory provided facilities for the training of local water plant supervisors.

The number of analyses undertaken for other Government Departments, notably Constabulary and Trade and Customs, were also greatly increased. Exhibits concerned with almost every form of crime were examined. Some scientific assistance has also been given to the Government of North Borneo and this is likely to increase as the laboratory facilities are enhanced.

The sources of the 12,369 samples analysed during the year are shown in the following table:—

Kuching Water Board	4,162
Sibu Water Board	822
Public Works Department:	
Other Water Supplies	5,520
Other Water Supply Work (Special)	246
General Work	29
Swimming Pool	45
Trade and Customs	52
Constabulary	1,309
Medical Department	23
Civil Aviation	1
Prison Department	1
Education Department	1
Attorney-General's Office	2
Government of North Borneo	45
Private or Commercial Firms	111

In 1963 it is intended that a new Government Analyst's Department should come into existence which will provide the following:—

- (a) Full chemical and bacteriological control of all water supplies throughout Sarawak and the training of local waterworks control staff.
- (b) All other ancillary chemical services for other branches of the Public Works Department.
- (c) A chemical service for the Department of Trade and Customs.
- (d) A scientific criminal investigation section specifically to assist the Sarawak Constabulary in crime detection.
- (e) Toxicological analysis and drug identification on behalf of the Medical Department.
- (f) Analysis connected with the sale of food and drugs.
- (g) Analysis for local authorities, commercial firms, etc., as and when required.
- (h) Analyst and Consultant to other Borneo Territories.

GAS

Miri is the only town in Sarawak which has a gas supply, gas being purchased from Sarawak Shell Oilfields Limited and supplied through distribution mains to Miri town. Up to 1952, the supply was only available in the Tanjong Lobang area but with the reconstruction of the Miri Bazaar distribution mains were extended to the town area, while in 1960 the mains on the Miri peninsular were taken over from Sarawak Shell Oilfields Limited.

The total number of services at the end of the year amounted to 700 in the Miri area, while 1962 also saw the laying of gas mains in the Lutong Bazaar area.

ELECTRICITY

The Sarawak Electricity Supply Corporation, a public utility undertaking with an authorised share capital of \$12 million fully taken up by the Government, provides public electricity supplies at all the major centres of Sarawak. The towns and environs supplied by the Corporation number fifteen as listed in Appendix F.

Alternating current, 50 cycle, 400 volt three phase and 230 volt single phase power supplies are provided at each station, and in most of the major centres continuous electricity supplies are provided, exceptions being Bau, Serian and Kanowit where the supply is limited to thirteen and a half hours each day for the time being.

All power stations operated by the Corporation are diesel powered ranging in size from 2,000 horsepower units in Kuching to 40 horsepower units in the smaller stations. In all stations there is adequate generating capacity to meet demand. In the smaller stations, older, less efficient generating sets are retained for emergency use only, and are included in "installed capacity" figures given in Appendix F.

The distribution systems in Sarawak operate at 11,000, 6,600 and 400 volt. At all voltages there are underground and overhead line systems dependant on the locality. Overhead line design incorporates both steel and wood poles showing a high degree of reliability, continuity of supply being further enhanced by the use of automatic reclosing oil circuit breakers.

The maximum demand on all the stations of the Corporation rose by 11 ½ per cent, the comparatively low rate of growth being attributed to low prices of rubber, timber and pepper on the world markets. The number of units sold rose by 18.2 per cent and a further 1,576 consumers were connected to the public electricity supply system, representing an increase of 11.2 per cent.

This represents a considerable achievement when the electricity supply position today is compared with that of the postwar years. Statistical records show a five-fold increase in output over the last decade, while the number of consumers has increased four-fold and this, with the change over of all stations to alternating current, has involved the Corporation in a considerable construction programme. The extension of the Sibu power station which was carried out in the 1952/1954 period and the construction of the new power station at the Tanah Puteh area, Kuching, commissioned in 1959, being the two major items.

The electricity charges levied by the Corporation are given in the following Schedules:—

ELECTRICITY CHARGES

Type of Tariff		Kuching and Sibü	Miri	All other stations
		Cents per unit		
A.	Lighting and Fans	30	35	35
B.	Combined Domestic Tariff			
	First 30 units per month	30	35	Not applicable
	Next 30 units per month	12	23	
	Above 60 units per month	10	14	
C.	Domestic Power			
	First 200 units per month	Not applicable	Not applicable	17
	Above 200 units per month	Not applicable	Not applicable	14
D.	Business Power			
	First 5,000 units per month	15	17	17
	Above 5,000 units per month	12	14	14
E.	Industrial Power			
	First 1,500 units per month	15	17	17
	Next 3,500 units per month	10	14	14
	Above 5,000 units per month	8	12	12
F.	Cinemas and Theatres			
	First 1,000 units per month	30	35	35
	Above 1,000 units per month	15	17	17
	(Combined lighting and power)			
Note: an alternative tariff is offered				
G.	Street Lighting			
	(Inclusive of maintenance charge)	30	35	35

Normal development works to meet increased demand in areas where power supplies exist and to supply extended areas due to the spread of the various towns necessitated considerable capital expenditure, this had been accentuated to some extent by a programme of reconstruction of low tension overhead lines to

meet current standards. Apart from routine works, a Divisional Office with stores and workshops for Kuching was completed and occupied during the year, allowing the site previously used to be vacated for future erection of a multi-storey commercial type building.

FOOTNOTES:

1. All charges per unit are in Malayan currency—

£1 sterling equals Malayan \$8.57.

There are 100 cents to a Malayan dollar.

2. On all tariffs a minimum charge of \$3.00 per month per meter is applicable with the exception of the Combined Domestic Tariff (B) for which a \$6.00 minimum charge is levied.

3. Definitions of tariffs are:—

Combined Domestic—applicable to consumers occupying a private dwelling not used as a hotel, boarding house or mess or for any business trade or profession, who consume electricity for other purposes in addition to lighting or fans and whose installation contains at least one 13 amp. socket outlet.

Business Power—electricity used on business premises including shops, factories, offices, hospitals, clubs, schools, broadcasting, posts and telegraphs, etc., for air conditioning, cooking, heating, refrigeration, water heating, domestic appliances, medical apparatus and other small appliances.

Industrial Power—electricity consumed by electric motors and plant used for industrial purposes and manufacturing processes. Special industrial tariffs with particular reference to off peak loading may be negotiated with bulk industrial consumers at the discretion of the Company.

Hydro-electric Survey of Sarawak

Under the Colombo Plan, Australia provided the services of an experienced engineer to advise on the collection and recording of necessary data to allow development as and when required of hydro-electric potential.

As the results are of general interest not only to residents of Sarawak but also to the large industrialist to whom cheap bulk power is an important factor, salient features from the preliminary report are now included.

Theoretical Hydro-Electric Potential

The theoretical hydro-electric potential for Sarawak is estimated to be approximately $190,000 \times 10^6$ kWh per year. The distribution in Sarawak is:—

<i>Locality</i>	<i>Theoretical Hydro-electric Potential in kWh per annum $\times 10^6$</i>	<i>Area (sq. miles)</i>	<i>Average Theoretical Hydro-electric Potential per sq. mile $\times 10^6$</i>	<i>Per cent</i>
First Division	3,300	3,464	0.95	1.7
Second Division	3,600	4,129	0.87	1.8
Rajang Catchment	104,900	19,630	5.44	54.6
Rajang to Baram	6,500	9,347	0.70	3.4
Baram Catchment	60,800	8,581	7.08	31.7
Fifth Division	12,900	3,190	4.04	6.7
Total	192,000	48,342	3.97	100.0

It should be noted that the above figures are the *theoretical* potential. The nett potential after allowing for plant efficiencies, hydraulic and transmission losses would be about half these figures, and it may not be feasible to develop more than a small part of this nett potential. Over 85 per cent of the theoretical potential is in the Rajang and Baram catchments and the low theoretical potential of other areas indicates that economic developments are unlikely except on these two major rivers. Although water power must be regarded as one of the principal natural resources of the country the nature of the rivers is such that economic development will only be feasible in conjunction with a major increase in demand for electricity. However, if only 20 per cent of the nett potential could be economically developed, the electricity produced would be sufficient to supply the present needs of Australia and New Zealand.

Sites Warranting Study

Sites for preliminary consideration were selected after examination of aerial photographs where available and discussions with geologists, surveyors, administrators, etc., with local knowledge of the area/areas concerned.

Sites Classified as Economic for Major Development

Batang Rajang at Pelagus Rapids

This site appears to be suitable for major development to produce low cost power for electro-chemical or similar consumers.

Batang Baram (Lower)

The river below Long Akah is neither steep nor very narrow but there may be a suitable dam site just below the confluence with the Pateh.

Batang Baram (Upper)

There is a very steep fall in the Baram between the Kelabit Plateau and Lio Matu. It may be feasible to develop a head of up to 1,500 feet.

Sites Classified as Marginal

Batang Ai

The river cuts through two ridges caused by an igneous intrusion in the base rock. This site warrants further investigation as a future source of power for West Sarawak and Sibü.

Batang Baleh

Site inspection, enquiries and examination of aerial photographs indicate the Baleh is a large sluggish river with little gradient. There is a possible project site sixty miles above Kapit where the catchment is much reduced.

Batang Belaga

This site could be developed by a diversion to the Rajang River to utilise the head of the rapids but would not be feasible if a dam is constructed at Pelagus Rapids.

Batang Rajang at Bakun Rapids

Also an alternative to Pelagus Rapids.

Batang Balui

There is a possible site just downstream of the Sungei Paran.

Sungei Linau

The river is obstructed by an igneous intrusion over which it discharges in impassable rapids and falls. There is a good reservoir site above the rapids.

Batang Tutoh

This river flows through a gorge in the limestone which forms Mounts Pelamau and Mulu. The low reservoir rim close to the Sungei Layun may limit development of this project.

Batang Limbang (Upper)

Between the Medihit and the Adong the river flows through gorges and there appears to be a number of suitable dam sites.

The preliminary study indicates that the electricity requirements of the Sibuan and Kuching areas could probably be met economically by a hydro-electric development when demand has risen to 80,000 kW or more. Hydro-electric potential of the Rajang and Baram Rivers is considerable and could provide a source of cheap power for an electro-chemical or similar industry.

In general West Sarawak and the coastal strip are not suitable for economic hydro-electric developments. The rivers between the Lupar and Katibas warrant investigation to meet future load growth. A site on the Batang Ai appears most favourable. The Rajang and Baram rivers should be investigated as a major source of industrial power.

Rural Electrification

The question of rural electrification in Sarawak presents major problems in economics due to comparative lack of communications, low population density, low load and consumption potential in the rural areas for some years to come, and the resultant high cost of generation and supply. A panel of rural electrification experts from the Economic Commission of Asia and the Far East visited Sarawak during 1962 to study the problem and make recommendations. The problems and economics of financing rural electrification were agreed to be formidable, with no apparent alternative to subsidies or grants to meet the capital cost.

Other Public Electricity Supplies

The licensing of public electricity supply schemes not under the control of the Sarawak Electricity Supply Corporation is carried out by the Chief Electrical Inspector, under the provisions of the Electricity Ordinance and covers the supply to small bazaars and settlements. They are financed mainly by individuals or small companies.

The period of supply is usually six hours. The supply is single phase 230 volts or 3 phase 230/400 at 50 cycles. Thirty-seven schemes have been licensed with a total installed capacity of 566 kilowatts.

BUILDING WORKS

The building programme from 1947 to 1962 has not only been large in scope but varied in character and includes the construction and completion of schools, hospitals, training colleges and administrative and other Government departmental offices and staff quarters. In the period 1946/1950 works were mainly in connection with the rehabilitation and repair of existing buildings, particularly office accommodation, with new construction generally restricted to quarters of all standards for Government staff.

The implementation of the first major programme of office construction in the period 1950/1953 resulted in the completion of the Geological Survey and Printing Offices in Kuching, the Resident's Office and Police Station at Sibul, the Rural Improvement School at Kanowit and a new block of Government offices at Miri together with godowns for the Trade and Customs Department.

In this period, the requirements of outstations were not overlooked and new office accommodation was provided for District Officers at Lawas and Lubok Antu and for the Administration at Bekenu, while the requests of the Medical Department for outstation dispensary facilities at Mukah, Belaga, Dalat, Kapit, Julau and Lawas were also met.

By 1953, improvement and alteration of existing office accommodation to meet increased demands had reached the limits of feasibility and the following three years saw the construction of major schemes, including the Secretariat building, telephone exchanges at Sibul, Kuching and Miri, the Health Centre, Kuching and the Chinese Teachers' Training Centre at Sibul.

A major policy change in the type of accommodation to be provided for Government officers also occurred in this period with the construction of blocks of flats for both senior and junior staff, initially in Kuching and later in Sibul.

The improvements in the standards of design and construction of the present day Government buildings over those of the post

cession years are perhaps the most significant achievement of this branch of Public Works. This improvement is found not only in Government buildings but is also reflected in current private construction in the growing urban and bazaar areas of Sarawak.

The revised Development Plan in 1958 saw a greatly increased tempo in the construction of Government buildings and also a wider diversification in the range and types of buildings designed and constructed. During this period building schemes much larger in scope and design than any which had ever previously been attempted in the country were set in motion providing for the growing educational, medical and administrative requirements of the present day. The principal building developments completed in the period 1958 to 1961, and coming within this category are as follows:—

Education

Batu Lintang Teachers' Training Centre	\$2,500,000
Secondary School, 24th Mile, Kuching	\$1,470,000
Secondary School, Miri	\$1,420,000
Secondary School, Simanggang	\$ 745,000
Junior Secondary Schools—Kanowit	\$ 400,000
Mukah	\$ 445,000
Saratok	\$ 465,000
Limbang	\$ 506,000
Bau	\$ 446,000
Marudi	\$ 426,000

Medical and Health

New Hospital, Simanggang	\$1,000,000
New Hospital, Sarikei	\$ 450,000
Complete reconstruction of Sibu Hospital	\$1,510,000
Dispensaries at various sites	\$ 350,000
Mental Hospital	\$2,000,000

Office Accommodation, etc.

Government Offices, Kuching	\$1,200,000
Broadcasting House (extensions)	\$ 500,000
Soils Laboratory	\$ 250,000
Information Office	\$ 140,000
War Memorial, Kuching	\$ 30,000

Apart from new buildings, considerable time and effort was directed during the years under review to evolving and setting standards for adequate maintenance and repair of all Government buildings. Two main factors arising and established were:—

- (a) The establishment of registers of all Government buildings;

(b) Government's agreement to provide maintenance funds to the following percentages based on the value of all Government property:—

(i) Quarters	2 per cent of value
(ii) Hospitals and Dispensaries	3 per cent of value
(iii) Other Government Buildings	2 per cent of value

A 3-year cycle of redecoration for all Government buildings was decided upon as being desirable to combat severe climatic conditions met with in Sarawak and wherever conditions and funds permit.

Considerable research has also been carried out during the period under review by the Department on types and kinds of building materials most suited to the country's needs and financial resources.

In 1962 the building programme was reaching what was thought might be termed its peak in relation to departmental staff availability and local contractual potential, and during the year the following major new schemes were put in hand:—

Marudi Junior Secondary School
Kuching General Hospital
Extension to Nurses' Home
Extension to the Central Mechanical Workshops, Kuching.

During 1962, approximately \$1,428,000 was spent on Maintenance of Buildings, approximately \$100,000 was spent on Maintenance of Furniture; also an extensive programme of arrears of maintenance costing \$390,000 was completed.

During the period 1958-1962 an approximate total of \$25,300,000 was spent on new buildings of all kinds as follows:—

1958	\$5,500,000
1959	\$4,573,000
1960	\$5,000,000
1961	\$5,000,000
1962	\$5,173,000

AIRFIELDS

When one compares today's daily aircraft schedules in Sarawak with the nil schedules of 1946, the constructional effort which has been completed in this form of communication becomes readily apparent.

At that time, the only airfield was a military field subsequently to be used for D.C.3 scheduled passenger services—located

in Kuching. In April, 1948, construction commenced on the present Kuching Airport which was opened to traffic in 1950. At Sibü, construction of the present airfield was commenced in 1951 and the proving flight by an M.A.L. Dakota was successfully completed in August, 1952.

In the period 1955/1962, construction was carried out at Bintulu, Simanggang, Mukah, Lawas, Marudi and Sematan to provide airfields suitable for use by Twin Pioneer type aircraft and scheduled services were commenced.

The airfield at Simanggang has a bituminous surface and at Lawas a crushed gravel surface while at the other locations stated the surface is of grass. There is also an airfield at Lutong near Miri which has been constructed and is maintained by Sarawak Shell Oilfields. Regular scheduled Twin Pioneer aircraft services operate from the airfield which has a grass surface.

During the current year, the main concentration in airfield construction has been the extension of the Kuching runway to 6,300 feet by 150 feet in width and its strengthening to L.C.N. 40 and at Sibü the extension of the runway to 4,500 feet by 100 feet in width and the completion of a bituminous surfacing to the entire runway and parking apron for use by aircraft of the Fokker Friendship type. This latter work which was commenced during 1962 is scheduled for completion in the first half of the coming year. During reconstruction the normal Dakota service has been replaced by a Twin Pioneer service.

At Belaga the work of reconstruction of the *ulu* airfield to bring it to operational standard for Twin Pioneer type aircraft was commenced early in 1962, and was nearing completion at the end of the year. A crushed gravel surface will be provided on completion of regrading and drainage work now in hand.

At Long Semado reconstruction of the existing *ulu* airstrip to operational standard was commenced in October. At this location it was necessary to airlift all plant and equipment to the site which is very isolated. With the help of the Royal Air Force, much of this equipment had arrived at Long Semado by the end of the year.

WHARVES AND PORT DEVELOPMENT

In the period 1946/1950, wharves and port development works were concentrated on the rehabilitation of existing facilities

with new construction being limited to semi-permanent structures in *belian* timber.

In 1951, consultants were commissioned by the Sarawak Government to advise generally on port development throughout the country, with particular reference to the possible development of a deep water port. The Port Development Schemes for Sibü and Kuching which have recently been completed are the outcome of the consultants' basic recommendations.

At Sibü, the new wharf giving a 486 feet frontage by twenty-eight feet in width was constructed in the period 1954-1956, together with ancillary buildings comprising two godowns 144 feet by 80 feet and a two-storey godown/office building 134 feet by 50 feet. The wharf is of reinforced concrete construction, on 105 feet long steel box piles and has been designed for a distributed load of 3.5 cwts. per square foot plus a concentrated load of ten tons at any point in one bay over the inner twenty-four feet.

The wharf has a depth alongside of nineteen feet and is at present accommodating vessels of up to 5,300 tons deadweight.

In 1958 design work was completed and construction commenced on outstanding proposals for port development works at Kuching, Simanggang and Miri, all of which have now been completed.

At Kuching the construction of a new reinforced concrete wharf of 800 feet frontage by forty feet deck width was completed in 1961. The wharf is of reinforced concrete construction throughout, designed for a deck loading of 3.5 cwts. per square foot plus a wheel load of nine tons. The reinforced concrete wharf deck and the four approaches have a bituminous wearing surface. The fendering system is of the shear type rubber fender blocks fitted to steel box piles which have *belian* rubbing strips and *belian* wailings. There is a minimum depth of seventeen feet of water at the face of the wharf and vessels up to 5,300 tons deadweight are regularly berthed alongside. Construction work also included a steel sheet piled river wall of 880 feet length, a landing ramp of reinforced concrete construction for unloading L.C.T.s (landing craft), two large godowns each 300 feet by 100 feet together with ancillary buildings, stacking areas, offices and road access.

During 1962, at Simanggang, a wharf of 104 feet frontage by thirty feet width with a single approach was completed. The wharf is of reinforced concrete deck construction carried on steel box piles, the deck being designed for a loading of 300 pounds per square foot. The wharf is used by coastal vessels but the size is restricted to 200 tons because of river navigational problems.

At Miri, the construction of the reinforced concrete relieving platform to the steel sheet piled wharf frontage commenced in the latter part of 1960, was also completed in 1962 with the bituminous surfacing of the wharf area. The wharf has a 200 feet frontage for use of vessels entering the Miri River and in addition 203 feet of wing wall construction gives facilities for berthing of *prahus* and other small river craft.

At Kuching, the facilities for the berthing of tankers at the Oil Depot at Biawak, constructed in 1953/1954, were considered inadequate, and during 1962 the construction was completed of two additional breasting dolphins using eighty feet length of heavy hexagonal sections of steel box piling. The dolphins, which have a reinforced concrete deck approach giving a total frontage of 178 feet, permit vessels of 10,000 tons deadweight to be berthed at the jetty.

During 1962, the first of the permanent pontoon wharves for river and sea going launches was completed with the construction, at Sibü, of three floating wharves comprising groups of three or four reinforced concrete pontoons each being 36 feet by 12 feet by 5 feet. These pontoons are pin jointed to one another with a lattice steel girder approach.

The traditional form of *jelatong* construction which was continued up to 1957 for river launch traffic proved inadequate to meet the demands of the traffic, and during 1960 consideration was given to the use of reinforced concrete pontoons resulting in the construction of single pontoon wharves at Kanowit in 1960 and in Betong in 1961/1962.

At the end of 1962 further construction of reinforced concrete pontoon wharves in groups of three or four pontoons to give 112 feet or 146 feet wharf frontage was in progress at Sibü.

Where the use of reinforced concrete pontoons has proved impracticable, *belian* timber wharves of multi deck construction,

to permit launches' usage at the varying stages of river level caused by tide and flood, are being provided, and during 1962 construction of such a wharf was completed at Nanga Medamit in the Fifth Division while another was commenced at Kabong capable of berthing vessels of up to 250 tons capacity.

Further timber wharf construction work completed during 1962 was the extension of the existing wharf at Marudi to provide a frontage of 113 feet.

As Sarawak develops, the expanding trade requires improved wharf facilities and to meet this demand extensions to existing port facilities at Kuching and Sibu are under consideration for the next Development Plan, together with the reconsideration of the location for a deep water port, once planned for Gunong Ayer in the 1952/1955 proposals, but deferred pending further investigation of the most advantageous location for such a port.

DRAINAGE AND IRRIGATION

The Drainage and Irrigation Branch which was first established at the end of 1957 as a section of the Lands and Surveys Department and transferred to the Public Works Department on 1st December, 1958, continued its work in connection with hydrological survey and the investigation, survey and design of land improvement schemes both by drainage and irrigation as well as flood relief and river works.

The Hydrological Survey of Sarawak approved in 1960 is being implemented during the year and is expected to be completed as scheduled in 1963. At the end of 1962, a total of twenty-two recording rain gauges and nine evaporation recording stations had been installed. The Sadong River recording station was installed during the year and action taken on the establishment of the five other stations on the Rejang, Baleh, Baram, Lupar and Limbang Rivers.

The construction of the standing wave flume at the standard catchment area at Sungai Bedup (to assess rainfall/run off characteristics), is under construction.

LAND IMPROVEMENT SCHEMES

The establishment of Divisional and Central Advisory Committees and the adoption of procedures to deal with all types of land improvement proposals and investigations, the engineering aspects of which are the responsibility of the Drainage and Irriga-

tion Branch of the Public Works Department, was finalised during 1962.

At the end of the year there were eleven outstanding requests for investigation of major schemes while reports, plans and estimates had been completed for 3,000 acres at Bijat and 1,500 acres at Pujut Lopeng and detailed proposals were nearing completion for the three *tanjongs* between Gedong and Simunjan. A drainage improvement scheme was also completed for the Kabong peninsular covering an area of approximately 12,000 acres.

Flood Alleviation Schemes and River Clearance

Investigations were completed and designs prepared during 1962 for the alleviation of flooding of Rock Rock, Kuching, and for drainage improvement to the first four miles of the Sibu/Ulu Oya Road. Other investigations concerning flooding at Serian, the hydrology of the Sarawak River at the Batu Kitang new bridge site, and the surface water drainage layout for the Pending Peninsular development area were carried out.

Coast and River Erosion

The erosion problems in Sarawak, which has an unusually heavy rainfall and a consequently high run-off, have become increasingly important with the development of towns located on low swampy areas adjacent to river confluences.

During 1962, a detailed investigation was carried out at Simunjan in the First Division to assess the engineering works necessary to overcome the erosion of this bazaar and *Kampong* frontage. The investigation showed that the extent of works necessary to successfully overcome the problem was of a magnitude out of all proportion to the value of the area.

At Sibu, a preliminary investigation has been carried out in recent years on the erosion problems affecting the valuable land area on the river bank, immediately upstream of the town, and it is hoped to base the detailed survey, necessary to provide an answer to this difficult problem, on the results obtained.

TOWN DEVELOPMENT

A great change has been brought about by the extensive town and bazaar development programme implemented during the last sixteen years.

While the many changes familiar to visitors to the larger urban areas are readily apparent, how many are there today who

recall that not one shophouse was standing in Miri, Kanowit, Lubok Antu or Mukah in 1946; that Song was located on the opposite bank of the river to its present location, and that Kapit was a collection of semi-permanent structures as also was Lawas and Sibuti.

The reconstruction of these bazaars was planned and implemented in the 1946/1956 period, which brings us to the start of the current Development Programme. New bazaar areas such as the Kampong Gita scheme in Kuching; the Kampong Pulau scheme in Sibiu and new bazaars at Kanowit, Marudi and Saratok are all now completed, while further development works at the Pulau Babi and Loba Lembangan areas in Sibiu, at Simunjan and Lawas are currently in the final stages of development. Other places, particularly Sarikei and Binatang, have more than doubled in size in this period.

During 1962, the major item under the Town Development Programme was at Sibiu where the earthworks, drainage and road surfacing works in the new bazaar area were completed. At Pulau Babi the completion of a 713 feet long anchored reinforced concrete sheet pile retaining wall to the Loba Lembangan, enabling the reclamation of this area, was also completed. A scheme has been drawn up and approved during the year for the development of this area for private godowns and the roads necessary to give access to the godowns. This work will be carried out in 1963, the main access from the Bazaar to the area being completed during the year with the construction, in reinforced concrete, of the Mission Road Bridge.

In Miri, the work of surfacing to the Brighton residential area and North Yu Seng Road was virtually completed, while at Lawas the sewage scheme work was still in progress at the end of the year.

In so far as bazaar drainage proposals are concerned, schemes were prepared for works at Tebekang, Pantu and Lingga for implementation early in 1963.

Port Operation and Facilities

Kuching

The facilities of the new port of Kuching at Tanah Puteh, which was opened in June, 1961, operated successfully throughout the year, and have proved of general benefit to all users. It was inevitable that a complete change in *modus operandi*

which resulted from the shift from the old port should create some initial difficulties, but these have now been overcome, and the year under review has been one of settling down to the new conditions and the resolving of any outstanding difficulties. It is a measure of the initial success of the new port that, accepting the normal difficulties and differences which arise in the shipping world, the port has been free from serious adverse criticism, and although still referred to as the "new port", has become an accepted feature in the daily life of the business community and the public generally.

During 1962, Tanah Puteh handled approximately 225,607 revenue tons, and was used by 381 vessels, of a total of 435,231 gross registered tons, comprising 294 sea-going vessels and eighty-seven lighters. The two largest vessels to berth at Tanah Puteh were the *Schouten*, G.R.T. 4116 and 358 feet overall length, of the Royal InterOcean Lines, and the *City of Leeds*, G.R.T. 3946, being 377 feet overall length. During the year several new vessels and shipping lines commenced calling at Tanah Puteh, the most notable being the Ellerman Bucknall "City Line", which early in the year inaugurated a direct sailing between the United Kingdom and Continental and Borneo ports. Another service to become firmly established during the year was the South-East Asia Lines direct service to West Australia. A third company to commence calling on a fairly regular service was the Japanese Iino Line.

The new facilities of the port of Kuching are controlled by the Kuching Port Authority, a statutory body established under the Port Authorities Ordinance, 1961, whose membership comprises representatives of Government and all sections of the community directly connected with the port, business and commercial interests being in the majority. Labour also has direct representation in the Authority. The Authority's relations with the commercial community and with Labour were excellent during the year, and in the case of Labour, negotiations on certain conditions of working at the port were held in a most satisfactory atmosphere of mutual trust and respect.

The facilities of the port have on several occasions during the year been used to capacity. The utilisation rate of cargo per foot of wharf of 282 tons per annum, or .77 tons per foot per day, and the berth utilisation of over 60 per cent during the year are very potent signs that further expansion of facilities

is needed in the immediate future. Congestion of vessels awaiting berths has unfortunately occurred on a number of occasions towards the latter part of the year.

Sibu

The present facilities of the port of Sibu are inadequate for existing traffic. Investigation into the present and future needs of the port of Sibu and initial proposals for expansion of facilities at the port were made during the year, and the Marine Department carried out a hydrographical survey to establish whether adequate depth of water was available in the vicinity of the proposed expansion.

Other Ports

No further investigation into the possibilities of port development at Kuala Baram has been carried out this year, and a full hydrological survey of the river mouth and the adjacent coast and sea-bed to investigate the possibility of maintaining a good dredged channel through the bar is required before any development can be planned.

Attention has also been given to the improvement of minor ports and wharfage throughout the country, and the need to develop inland waterway transportation, which will be of paramount importance in relation to the country's rural development programme.

THE BROOKE DOCKYARD AND ENGINEERING WORKS

The Brooke Dockyard and Engineering Works is a Government owned shipyard with a drydock, a slipway and a general engineering workshop sited in the Kuching town area. The drydock is capable of accommodating vessels up to 215 feet in length with a beam of thirty-four feet and maximum draft of twelve feet.

The Dockyard facilities are available to commercial firms and private shipping companies, but its main function is to maintain the numerous Government vessels to the instructions of the Director of Marine, and this accounts for about 50 per cent of the total actual work carried out by the Yard.

Since 1959, the Dockyard has been under the control of the Public Works Department, with the Director of Public Works as General Manager and Chairman of the Advisory Board which comprises both official and unofficial members to advise him on implementation of policy.

The various functions of the Brooke Dockyard and Engineering Works are controlled by the responsible Branch Heads of the Public Works Department, such as the Superintendent of Stores for the Store Organisation, while financial matters are controlled by the Accountant. Direct supervision and works control are exercised by the Mechanical Branch of the Public Works Department.

The re-organisation, which commenced in 1959, has proceeded smoothly and has resulted in major improvements both in output and standards of work.

The installation of new machine tools resulted in an immediate improvement in both quality and volume of work, and the policy for the future is to replace all Dockyard machinery and equipment on a "life" basis, thus ensuring that the workshop keeps pace with the latest developments and the ever increasing demands.

Concurrently with the improvements in workshop facilities, the management has planned a new slipway and extension to the wharf and workshops.

Work on these new developments is expected to commence in 1963 and, when completed, a further increase in output may be expected.

Considerable attention has been paid to improving the standards of work by close supervision, training and encouragement of the Dockyard staff, many of whom have now successfully passed the comprehensive Trade Tests and are classified officially as Tradesmen.

Since the re-organisation of the Brooke Dockyard and Engineering Works, which commenced in 1959, figures may be summarised as follows:—

Production increased from \$396,057 in 1959 to \$807,000 in 1962—an increase of 129 per cent.

The Profit and Loss Accounts show a loss of \$8,665 in 1959 and a total profit of \$263,649 (approximately) for 1960, 1961 and 1962.

During the period 1959-1962, analyses of work done show an increase of approximately 187 per cent in the work carried out for commercial firms.

During 1962, production reached the highest figure of \$807,000 and a profit of \$142,500 (approximately).

XIV

COMMUNICATIONS

AIR

General

THE Sarawak aerodrome system now consists of twenty-two aerodromes and airfields varying in size and standard from the capital airport at Kuching with a 6,300-foot runway capable of use by Comet aircraft, to DC3/Fokker Friendship and Twin Pioneer aerodromes at the main coastal and interior townships and communities, and to hinterland light aircraft airfields.

In 1962, there were 12,346 aircraft movements, and 74,175 passengers embarked or disembarked, at aerodromes throughout Sarawak.

To appreciate the full extent of development in Sarawak it must be realised that Civil Aviation was a post-war development for Sarawak which commenced only in 1949 with a once weekly Malayan Airways Limited DC3 Service operating from Singapore through Kuching, the only available Sarawak airfield, to North Borneo.

By the end of 1952 this frequency of operation had been increased to five times weekly and in addition the new airport at Sibü had been introduced into the route.

Thereafter the rate of progress quickened as the value of aviation to Sarawak became fully appreciated, and successive Sarawak Development Plans have provided the means for the construction of aerodromes and airfields throughout the territories, and for the purchase of aircraft.

The extension of the North Borneo Feeder Service, operating De Havilland Rapide aircraft on a twice weekly basis to Miri, Bintulu and Sibü during 1955, initiated the true commencement of Sarawak's internal air transport communications. From this

humble beginning developed the need for the creation of Borneo Airways Limited, a private company, ultimately formed in 1957 by the Governments of the British Borneo Territories and BOAC with 51 per cent of the share holding being jointly held by the Governments. Borneo Airways Limited, based at Labuan, operates the Sarawak internal air services with one DC3 and three Twin Pioneer aircraft and now serves eleven coastal and internal aerodromes in Sarawak, maintaining close liaison with Malayan Airways to provide the public with connecting internal and regional air services. Malayan Airways Limited continues to provide Sarawak's external communications, operating the Singapore/British Borneo Territories regional services with Viscount and DC3 aircraft. Daily schedules link Kuching and Sibu with Singapore on the one side and Brunei and North Borneo on the other.

Sarawak Aerodrome Development

Aerodrome development in Sarawak has been governed not only by the needs of the aircraft being operated but also by the nature of the terrain, and conversely the aircraft selected for operation in certain areas of Sarawak have been those having special qualities of being able to operate into and from very short runways with very difficult surrounding terrain. The largest towns and commercial centres are fortunately in the coastal areas and it was a relatively simple matter to develop aerodromes in conformity with ICAO standards and recommendations to permit the use of the DC3 aircraft or Twin Pioneer which provided the initial Singapore-Borneo, and Sarawak's internal services. Similarly when traffic requirements increased and the need arose certain of these aerodromes were extended and improved without undue difficulty.

Development in the interior and remote areas of Sarawak has been a very different matter. The nature of the terrain placed severe restrictions upon the areas of ground which could be considered as aerodrome sites at the majority of places where aerodromes were considered to be necessary. Almost invariably the communities to be served were centred upon riverside villages surrounded by mountainous terrain and thick jungle, and aerodrome site-surveys were carried out entirely relying on the local

advice available since accurate maps were and still are virtually non-existent.

The construction of remote interior aerodromes has been carried out by hand labour by the various communities which have been fortunate enough to be selected to have aerodromes because, again as a result of the terrain and the general inaccessibility, it has proved impossible to position mechanical equipment.

The supervision of these interior aerodrome construction projects has been shared between the Department of Civil Aviation, the Administration and the Public Works Department.

The major development work during 1962 was the completion of the extension of the Kuching runway by 1,200 feet to 6,300 feet and the raising of its bearing strength throughout to the extent that it can now be used by aircraft such as the Comet. Kuching Terminal Building was also extended and renovated.

The Sibuluan runway and parking apron resurfacing project was also commenced in November, 1962. This necessitated the closure of the aerodrome to all but light or STOL aircraft. The areas concerned will be strengthened and sealed with premix bitumen and subject to weather it is hoped that the 4,500-foot runway will be fully reopened to traffic in March, 1963. Extension of the runway to 2,400 feet was also commenced at Mukah aerodrome and this will be completed early in 1963.

At Long Semado the Borneo Evangelical Mission had, by the beginning of the year, constructed a new light aircraft landing strip some 1,300 feet by 40 feet on the site approved by a Departmental survey in April, 1961. Borneo Airways made an approaches proving flight on 6th June, 1962, and were satisfied that the approaches are suitable for public transport schedules with Twin Pioneer aircraft. The Public Works Department commenced construction of a Twin Pioneer aerodrome in September. Plant and equipment was flown to site by Royal Air Force Twin Pioneer aircraft during September and October. The aerodrome is planned to be ready for operations by March, 1963.

Further improvements involving the resealing of the Simanggang runway; erosion maintenance at Sematan and Long Akah; and the final reconstruction phase at the Belaga aerodrome were also carried out during the year.

Future development projects and planning are being directed to the construction of a new terminal area and Terminal Building at Kuching, the improvement of internal aerodromes and airstrips to ensure all-weather utilisation, and the construction as required of new internal airfields for schedule or charter service operations.

Private Aviation

The Brunei Shell Petroleum Company, Limited, has the largest private aviation organisation in the British Borneo Territories. The Company operates a fleet of three Percival Prince aircraft for general communications and company schedules and these aircraft are also used by the Sarawak Shell Oilfields Limited, who own a private (licensed) airfield at Lutong near Miri. In addition, three Helicopters are chartered from World Wide Helicopters Limited, for communications with exploration sites, inland and offshore, drilling sites and survey work.

The Borneo Evangelical Mission whose Headquarters is at Lawas, maintains communications with its missionaries in the hinterland area of Sarawak and supports them with supplies carried in their two Piper Tri-pacer aircraft. Their activities include flying in medicines and flying out the sick to hospitals. Flying and maintenance of the aircraft is carried out by the missionaries themselves. The Mission also gave generous help to the Sarawak Government in the conveyance of Government Officers on essential duty to the interior of the country.

The administration and operation control of all Government aerodromes and meteorological stations; the regulation of flying and air safety; and the development and co-ordination of all matters connected with civil aviation and meteorology within Sarawak is the responsibility of the Directorate of Civil Aviation British Borneo Territories (Sarawak-Brunei-North Borneo) the Headquarters of which are at Jesselton, North Borneo, but which maintains a Regional Office at Kuching, Sarawak.

WATER

The past sixteen years has seen considerable development in communication by sea to and from Sarawak ports although there has been little change of a general nature in coastal and river traffic.

The vessels employed on this work are mainly Chinese-owned, diesel-powered, wooden craft which on their outward voyages from the main ports of Kuching, Sibü and Miri distribute various imported goods and on their return bring back to these centres rubber, pepper, sago flour, sawn timber and other primary produce for grading and sorting prior to export. Some of these vessels are up to nearly 150 tons deadweight capacity and most are capable of accepting a small number of cabin and deck passengers.

Smaller craft on limited, as opposed to full, coastal voyages carry out the same duties and similar procedure applies in the rivers where these small-powered vessels and even outboard-powered longboats make their way far into the interior transporting consumer goods to inhabited areas and returning with jungle produce and rubber.

Very few such vessels are owned by companies. Most are owned by individuals or groups of individual shareholders. The Sarawak Steamship Company's main interest in the coastal service remains now with the M.V. *Rejang* on the Kuching/Sibü run. This vessel is well found and of sound design and is somewhat of an exception in the coastal fleet although interest is being aroused on the merits of building in steel.

Competition is fierce and, basically, the locally designed and built wooden craft are not economic from the point of view of maintenance, rapid cargo handling and quick turn round. Crew and passenger accommodation is poor.

New Merchant Shipping Legislation which came into effect on 1st April, 1961, has as one of its most important objectives the advancement of higher standards in this local fleet, in the supply of approved life-saving and fire-fighting equipment, better accommodation, other constructional improvements, and qualified manning on deck and in the engine room.

In conjunction with these improvements a navigation and engineering school was brought into operation by the Department of Education in 1959 for the training of seafaring personnel up to Home Trade Standards. Nothing of this sort had existed previously and no qualifications were required on the Sarawak coast. A fair number of men are now qualified and progress

is being made with a scheme to attract students to study for higher grade certificates with a view to replacing expatriate officers in the Marine Department.

The ship survey section of the Department has been strengthened both in number of staff and by training with the Ministry of Transport in the United Kingdom and the Surveyor-General of Ships in Singapore. It is hoped to continue with further courses for suitable officers.

A number of owners who are primarily interested in the export of timber have been more progressive in their outlook and have built a number of very useful vessels culminating in the arrival at the end of 1961 of the very practical TSMV *Kion Seng* No. 3 of 497 gross registered tons.

The export of timber which commenced with some significance at Tanjong Mani in the Rejang River in 1948 when some seventeen vessels called, mainly to load timber for Australia, has grown to the extent that in 1962 no fewer than 334 ships of 1,099,676 N.R. tons loaded a total of over 400,000 tons of logs and sawn timber for Australia, Japan, Hong Kong, the United Kingdom and European ports. In addition, log exporting points were established in the Batang Lupar, off Kuala Lawas and Kuala Limbang, and, latterly, at Sejingkat in the Sarawak River. Attempts to load logs in the open sea off Similajau and other exposed coastal areas have not been entirely successful mainly because of sudden weather changes. At Sejingkat the figures for 1962 show that seventy-eight ships of 127,652 N.R. tons loaded 70,196 tons of logs, which is double the tonnage for 1961.

In May, 1958, the export of bauxite commenced from Sematan, the ore being lightered to ocean vessels lying at anchor three to four miles off shore. The average shipment per year amounts to some 250,000 tons, and again because of weather difficulties, the shipping season is limited to the period April to October.

Miri handles the largest tonnage of overseas shipping of any Sarawak port and this, again, mainly involves bulk cargo, namely oil exported through the sea lines to ships lying at special moorings off the Lutong refinery. Tonnage in 1962 calling at Miri totalled 2,217,906 N.R. tons.

Prior to 1955 all oil products imported into Sarawak arrived in drums or in packed condition. The building of bulk oil depots at Sungei Biawak and Sungei Merah for Kuching and Sibul, respectively, meant that dangerous petroleum products were kept away from town wharves and heavily populated areas. Petrol and high speed diesel oil were the first products to be so handled, followed latterly by domestic kerosene, for which local industry manufactures the containers, and more recently, the import of aviation spirit and *Avtur*, or turbo-jet fuel. The wharf at the Kuching depot can accept twin screw tankers up to 403 feet overall length and a draft of seventeen feet. At Sungei Merah, Sibul, the limits are 220 feet and fourteen feet draft. A hydrographic survey of this stretch of the Igan River has recently been completed partly to see if these figures can be improved on.

Outside of these specialist commodity exports, which with the exception of oil, have been post-war features, the most striking development in shipping has been the commencement of direct services to and from ports other than Singapore and Bangkok which were, traditionally, Sarawak's main sources of imported goods and rice respectively.

Hong Kong was the first "outside contact" by a regular service, started in 1954, by the Norwegian Asia Line with a subsequent extension to Japanese ports in 1959. In October, 1958, the Royal Inter-ocean Line inaugurated a direct service to East Australian ports, North Borneo and Siam. Full coverage of main Australian ports became available at the end of 1961 when South-East Asia Lines commenced operation between Freemantle, Malayan ports, Bangkok, Sarawak and North Borneo, and in June, 1962, a direct service to the United Kingdom and Continental Ports was established by Ellerman and Bucknall Line vessels on a monthly schedule.

Such services cannot but have a beneficial effect on the economy of Sarawak as freight rates offered are slightly cheaper than normal and the avoidance of transshipment cuts down on handling damage and pilfering.

The old established service by the Straits Steamship Company Limited and the Sarawak Steamship Company Limited have continued to and from Sarawak Ports, North Borneo and Singapore,

together with the more recent services established by Hua Siang Shipping Company and Hiap Eng Moh Lines.

In addition, 1962 saw a very high increase in Japanese flag vessels calling at Sarawak Ports and in one or two instances offering regular services.

Activities of the Marine Department have had a considerable influence in the attraction of these new shipping lines to Sarawak in that pilotage at the main ports has always been offered, and as well as improving, or establishing, where necessary, new aids to navigation such as buoys, lighthouses and other navigational marks, including complete rehabilitation after the war of such aids, a Hydrographic Survey Unit was established in March, 1958, which has been instrumental in charting unsurveyed rivers and bars as well as re-charting others which had not been checked for years. The combination of such efforts has led to the successful handling of much larger vessels than hitherto in the Kuching and Rejang Rivers, the Hydrographic Unit having been instrumental in proving and surveying a completely new channel to Sibul which for years had escaped attention as the old channel had sufficed for the small vessels employed on the traditional Singapore trade.

A feature of the Department's own transport organisation, over and above the normal administration and management of touring launches, has been the acquisition and increasing use of larger vessels since 1954 mainly in the transportation of stone and materials for road and other construction projects and also in the use of specialised landing craft for the distribution of heavy machinery, trucks, bulldozers and other road building plant. This aspect will continue as the roads programme is pushed forward, and a large new landing craft is due for delivery in early 1963. Assistance is given to commercial organisations for the handling of heavy lifts, when possible, in order to help with any new development projects as few, if any, local craft are capable of carrying out such work.

ROADS

As a result of the Government decision to implement fully the Road Construction Programme as an essential part of its policy of expediting rural development in Sarawak the road

construction works gained considerable momentum during 1962. The current programme is for the construction of some 504 miles of trunk, secondary and feeder roads, the breakdown of which is trunk eighty-one miles, secondary 232 miles and feeder 190 miles. At the end of the year 236 miles of this programme had been built since its commencement in 1958, of which sixty-eight miles of road formation was completed during 1962.

New roads are classified under trunk, secondary and feeder roads designed for speeds of fifty, thirty and twenty miles per hour respectively. In order to construct the maximum mileage of road from funds available only a nine feet wide running surface is being provided on other than trunk roads in the first instance.

Prior to this present programme it had only been possible to undertake a reconstruction programme for existing roads in the 1952/1957 period; this included roads in the Kuching and Sibü Urban areas as well as surfacing of the Kuching/Serian road which was carried out in the 1953/1955 period. The current road construction programme will provide a main line of communication passing through or adjacent to rural areas, thereby allowing their development by means of subsidiary road networks. With the completion of this programme through communication from Sematan in the First Division to Durin on the bank of the Rejang River above Sibü should be possible.

Trunk and Secondary Roads

Construction of the formation of the eighty-one miles of the Serian/Simanggang trunk road was completed in May, 1962, and the full length of the road was opened to restricted traffic.

The formation work for two secondary roads was completed during the year, namely the Simanggang/Engkilili Road (18 miles) in the Second Division and the Limbang/Panderuan Road (10 miles) in the Fifth Division, while the following progress has been made during 1962 for other secondary roads:—

First Division	Bau/Lundu	$\frac{1}{2}$ miles
Second Division	Engkilili/Saratok	$7\frac{1}{2}$ miles
Third Division	Jakar/Saratok	$7\frac{1}{2}$ miles
	Kelupu/Julau/Durin	$7\frac{3}{4}$ miles
Fourth Division	Lambir/Subis	$7\frac{1}{2}$ miles
	Bintulu/Sibiew	2 miles

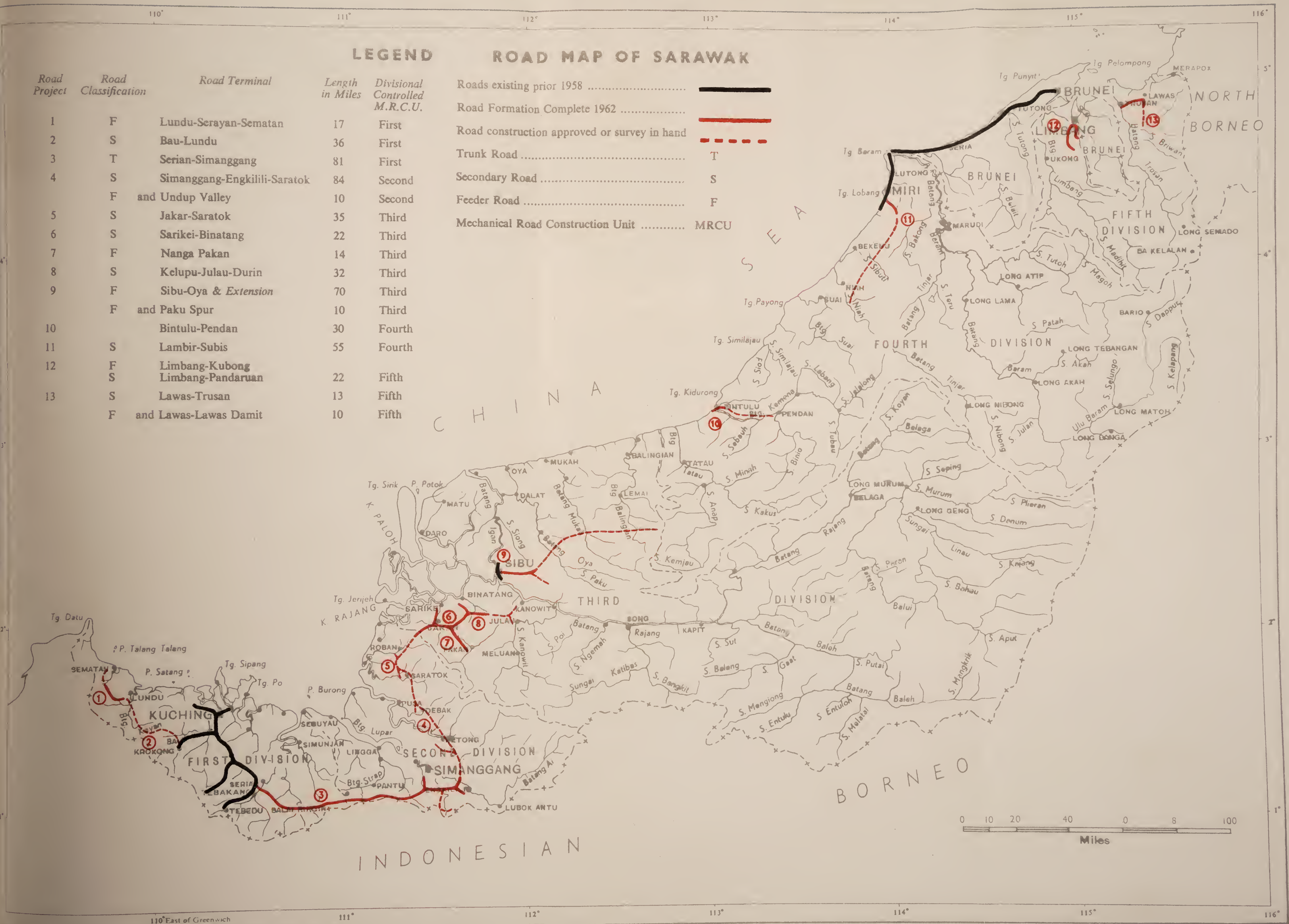
SARAWAK

LEGEND

ROAD MAP OF SARAWAK

Road Project	Road Classification	Road Terminal	Length in Miles	Divisional Controlled M.R.C.U.
1	F	Lundu-Serayan-Sematan	17	First
2	S	Bau-Lundu	36	First
3	T	Serian-Simanggang	81	First
4	S	Simanggang-Engkilili-Saratok	84	Second
	F	and Undup Valley	10	Second
5	S	Jakar-Saratok	35	Third
6	S	Sarikei-Binatang	22	Third
7	F	Nanga Pakan	14	Third
8	S	Kelupu-Julau-Durin	32	Third
9	F	Sibu-Oya & Extension	70	Third
	F	and Paku Spur	10	Third
10		Bintulu-Pendan	30	Fourth
11	S	Lambir-Subis	55	Fourth
12	F	Limbang-Kubong		
	S	Limbang-Pandaruan	22	Fifth
13	S	Lawas-Trusan	13	Fifth
	F	and Lawas-Lawas Damit	10	Fifth

Roads existing prior 1958	—
Road Formation Complete 1962	—
Road construction approved or survey in hand	---
Trunk Road	T
Secondary Road	S
Feeder Road	F
Mechanical Road Construction Unit	MRCU



Permanent bridge construction work was in progress on the Serian/Simanggang Trunk Road in fourteen locations of which two were completed and ten more than 50 per cent completed during the year.

On the Sarikei/Binatang secondary road a 180 feet span steel girder bridge of dual carriage-way was erected and launched over the Sungei Nyelong River. All permanent bridge construction works are designed to loading requirements of B.S. 153 Type H.A.

Feeder Roads

Construction was completed of the Nanga Pakan Road (14 miles) in the Third Division, and the Limbang/Kubong Road (11 miles) in the Fifth Division. Progress on other feeder roads which were under construction at the end of the year was:—

First Division	Serayan/Sematan	1 mile
Second Division	Undup/Valley Spur	Earthmoving started
Third Division	Sibu/Ulu Oya	22 $\frac{3}{4}$ miles
Fifth Division	Lawas/Lawas Damit Valley	3 $\frac{1}{4}$ miles

Road Survey

A further sixty miles of detailed survey and design in connection with the 1958/1963 Road Construction Programme has been carried out in addition to other minor surveys and investigations. The lack of suitably trained surveyors, coupled with the increasing demands of newly formed road construction units has made this aspect difficult. A Public Works Department Road Survey Training School with sixteen students receiving instruction has been formed to provide more locally recruited staff for survey work.

In addition to the detailed survey, forward reconnaissance, using the study of aerial photographs and field inspections has been substantially completed for the programme scheduled, and a start made on investigations for future works. Three United States Peace Corps surveyors have supported the existing staff on this work.

Other Road Works

Outside the 1958/1963 Road Construction Programme, the volume of road works was small. The Sibu town and district road

reconstruction programme was completed during the year, except for some remedial works. Surfacing of the Repok Road and other roads in the Sarikei and Binatang areas continued and the extension of the Kropok Road, Miri, was in hand at the year end.

Maintenance of existing roads was undertaken by local authorities and the Public Works Department, the total mileage maintained during 1962 being:—

Road Type	Mileage			Total Miles
	Width over 12'	Width 8'—12'	Width under 8'	
Bitumen or Concrete	150	29	1	180
Gravel or Stone	126	160	59	345
Earth	75	198	49	322
Total	351	387	109	847

LAND TRANSPORT

Sarawak has presented an unusual road transport problem during the period immediately following the end of World War II to the present time. Until quite recently, when the Kuching/Simanggang road was completed, there have been no main arteries connecting the major centres of population and therefore economic use of road vehicles has been extremely limited. Before 1954 the majority of the vehicles were in a very dilapidated condition, were greatly overworked, overloaded, lacked maintenance and the facilities for major repairs. The large fleet of small ten-seater buses providing public passenger services which were known as *Mosquitoes* expanded rapidly between 1946 and 1952 and in the Kuching area alone increased from fifty-seven to 257 during the period. Considerable traffic congestion was caused thereby in the populated areas but the operators neglected the rural areas as little traffic was offering. At this time it was possible for any person acquiring a vehicle to convert it into

a bus and then ply unrestricted on any road suitable for the purpose, provided he maintained the vehicle in such a condition that it did not constitute a danger to the public. No attempt was made to adhere to any authorised time tables and as a result of this cut-throat competition, which was a consequence of the virtual absence of any limitation on the number of vehicles, the services provided were totally unreliable.

The first steps taken by Government to organise bus companies from individual operators, who were mainly Chinese, were taken in 1954 following a report submitted by the Commissioner for Road Transport, Federation of Malaya, after a visit to Sarawak in 1953 at the request of Government to report on the position. As a result of this visit the Road Traffic Ordinance (*Cap. 131*), was enacted to endeavour to provide the control necessary to restore the situation. A Land Transport Department was established and a Motor Transport Licensing Authority was constituted to co-ordinate the public transport system throughout Sarawak and to grant route monopolies to cover one or more routes to properly constituted limited liability companies. The policy was to induce operators to import the type of vehicle most suited for the purpose and to impose on the operator and the user operating conditions which were fair to both. The permits granted by the Motor Transport Licensing Authority authorising such services provided for a basic rate of fare per passenger mile together with operating time tables. The re-organisation was, however, a slow and painful process as the *Mosquito* owners were loath to lose their individuality and freedom of action by throwing in their lot with a company. They were eventually made to realise that by joining a company operating a small number of larger and properly constructed buses, vast economies in operating costs could be made and profitable trading should result. The companies formed, however, suffered from the outset from lack of qualified management, technical and workshop staff, high maintenance costs and, most of all, competition from 200 taxis which had been authorised to operate in the area and from private cars and goods vehicles being used to carry passengers for hire or reward. The situation reached a climax in 1958 when it appeared that the public passenger transport industry was heading for bankruptcy.

A Commission of Enquiry was appointed by Government in that year to report on the problem. As a result of the Commission's recommendations a full-time qualified and experienced Land Transport Officer was appointed in March, 1960, and given the task of endeavouring to place the road transport industry on a profitable basis, to reduce direct competition between taxis and buses and to eliminate, as far as possible, the illegal use of private cars and goods vehicles for the carriage of passengers for hire or reward. To assist in solving these problems a new Road Traffic Ordinance (*No. 14 of 1960*), and the necessary subsidiary legislation, was enacted and brought into effect on 1st January, 1961. The new legislation made important changes in the system of control of commercial transport designed to provide and maintain a sound economic road transport structure throughout the whole country. The Ordinance established a Land Transport Advisory Board and Appeal Tribunal under the Chairmanship of the Land Transport Officer and a five-member Divisional Transport Authority in each of the five Divisions under the Chairmanship of the Resident, with full power to control all forms of commercial road transport for the carriage of passengers and goods. It became the duty of the Divisional Transport Authorities to ensure that a stable, efficient and economic transport system was created in the country and that wasteful competition, where it existed, was eliminated. The further re-organisation of the industry, required as a result of the new legislation, has been undertaken without any disruption of services and has proved of benefit to both the operators and the travelling public. Where new roads have been opened it has been the policy to authorise an established company to extend its services rather than allow a newcomer to the industry to provide a service, and should an existing company be granted a permit to operate a bus service on an entirely new route it has been usual for a number of shares in that company to be offered to the inhabitants of the new area to be served as a condition of the grant of the permit by a Divisional Transport Authority.

The Land Transport Advisory Board is responsible for advising Government on all matters connected with the co-ordination and control of land transport policy and on legislation necessary to

implement such policy. The Board has functioned smoothly in this respect.

Divisional Transport Authorities have been faced with a formidable task since the new legislation came into operation and have held thirty-six meetings between 1st January, 1961, and the end of 1962. A total of 446 applications has been received and dealt with by the Authorities during this period. Of this number 240 applications have been granted and 206 have been refused. In addition it has been necessary to hold four public enquiries in respect of cases where objections were lodged against the proposal to grant a permit to authorise a bus service. The wisdom of the decisions of the Divisional Transport Authorities can best be judged by the fact that only three appeals have been lodged to the Land Transport Appeal Tribunal since the law came into force and in all cases the decision of the Authority was unanimously upheld by the Tribunal.

The high priority being given by Government to rural development and the road construction programme, together with confidence on the part of the providers of passenger and goods transport, has resulted in the introduction of new vehicles throughout the country and larger capacity modern diesel buses built on passenger chassis are taking the place of the smaller and older types which were built on truck chassis. New trucks are mainly diesel-powered as their owners are realising that it is more economical to operate such vehicles up to the maximum carrying capacity permitted by road conditions in the respective areas of operation. It is estimated that approximately one million dollars has been invested in new equipment by commercial vehicle operators since the reorganisation of the industry in 1960. This consists of fifty-three new buses, eighty-one replacement taxicabs and eighty-six goods vehicles of all types. The industry in the more populated areas can be stated to have been placed on a much sounder financial basis and it should continue to expand in an orderly and profitable manner.

The Land Transport Department of Government is responsible for the examination of all motor vehicles, the testing of motor vehicle drivers throughout the country and the annual mechanical inspection of all public service and goods vehicles prior to the issue of certificates of fitness. Vehicles are also

inspected after accidents. The Department is responsible for the documentation in respect of the control of commercial transport, acting as agents for the five Divisional Transport Authorities. The Headquarters of the Department is in Kuching and the staff consists of a Land Transport Officer and his Deputy and ten Examiners/Driving Testers, two of whom are attached to the Sibuan Urban District Council and the Miri District Council respectively to cover the Third, Fourth and Fifth Divisions. The Second Division is covered by frequent visits from Headquarters. The Department occupied a specially constructed building in Kuching in 1962 which provides a vehicle inspection bay with a well lighted and tiled inspection pit. Covered facilities for the examination of vehicles have long been required by the Department to enable work to proceed in all weathers. During 1962 a total of 2,842 mechanical inspections were carried out on all types of vehicles resulting in 1,009 temporary and eighty-five total prohibitions being issued in respect of vehicles being found on inspection to be not roadworthy or beyond repair. 5,103 driving tests were conducted during 1962, 3,106 applicants passed and 1,997 failed the tests.

The registration and licensing of all classes of motor vehicles and the issue of driving licences is now being undertaken by local authorities centralised to one such authority in each of the five Divisions of Sarawak. The motor vehicle population continues to increase from 2,334 in 1954, the first year in which accurate statistics were maintained, to 8,660 in 1962. The figure for 1962 consists of motor vehicles held on the register which were currently licensed as at 31st December, 1962, and comprises 3,577 motor cycles, 3,573 private cars, 210 taxicabs, eleven private hire cars, 1,083 commercial vehicles and 206 omnibuses. In addition 1,340 Government-owned vehicles of various types are held on the register. During 1962 a total of 15,893 driving licences and 9,922 provisional driving licences were issued.

An interesting feature of the new road traffic legislation was that persons engaged in professional driving tuition were required to be authorised by Divisional transport authorities and permits for this purpose were only granted after the instructors had passed a most exacting proficiency test. Up to the end of 1962 twenty-two professional driving instructors were successful in

passing the test whereas previously the industry was showing signs of mushroom growth with inexperienced instructors. The situation has now been brought under control.

It now remains to plan for the future and the operators are rapidly gaining experience so that as road development takes place the land transport industry under the new organisation established for its control will be in a position to provide satisfactory services for the carriage of passengers and goods throughout the country.

TELECOMMUNICATIONS

PUBLIC TELEPHONE SERVICE

The year under review saw the end of an important decade in the development of the Department of Posts and Telegraphs ending as it did the first stage of real progress in a service which has now grown to be a large postal and engineering organisation.

The Department generally has been able to offer facilities which provide maximum service for minimum capital expenditure. It has been able to keep pace with development but must expand considerably in the future if the overall pattern of growth is to be followed. Considerable capital will be required which if expended judiciously will produce increased revenue. Approximately \$11,000,000 has been spent on development during the past ten years and it is estimated that an additional \$17,000,000 will be required in the next five.

Buildings

Buildings which include Post Office, Engineering and Stores accommodation have been adequate to meet requirements in the past but a large building programme is now necessary to deal with the ever increasing demand.

Financial provision has been made to provide nine modern Post Office and Automatic Telephone Exchange buildings at Sarikei, Simanggang, Bau, Serian, Limbang, Marudi, Bintulu, Kanowit and Betong. These buildings designed and approved for erection in 1963 will become a standard type for Sarawak.

A large new Post Office is nearing completion at Sibu and plans are well in hand for a new 10,000 line automatic exchange at Kuching which will be modern in all respects.

Telephones

Telephone development has continued to be healthy and an overall growth of 10.7 per cent a year has been maintained. Where possible the Department is concentrating on automatic exchange equipment and it is expected that many rural exchanges now manually operated will be connected to the network within the next few years. Equipment is on order which will enable installation of the first phase of a subscriber metering system in 1963 and will make possible automatic dialling between trunk centres eventually. The system of subscriber trunk dialling planned for introduction will be similar to that now being installed in Malaya.

Telephone revenue increased again in 1962. Further increases may be expected following the provision of better trunk services, introduction of local metering and subscriber trunk dialling facilities.

In addition to providing the internal telephone service the Department provided radio telephone service to those parts of the world where there was demand.

TELEPHONE STATISTICS

(Values are in decimals of a million)

Year	Number	Total Tele- phone Rental Revenue	Total Trunk Fee Revenue	Total Revenue
		\$	\$	\$
1952	720	0.045	—	0.045
1953	720	0.056	—	0.056
1954	720	0.057	—	0.057
1955	1,257	0.115	—	0.115
1956	1,931	0.186	0.094	0.280
1957	2,135	0.459	0.244	0.703
1958	2,682	0.590	0.283	0.873
1959	2,981	0.643	0.346	0.989
1960	3,359	0.693	0.490	1.183
1961	3,697	0.797	0.624	1.421
1962	4,131	0.720	0.742	1.462

Telegraphs

Telegraph traffic statistics have remained steady and are not expected to show large increases at the present stage of development.

The Department now uses teleprinters in the main centres allowing automatic transmission of messages, these have replaced the hand morse circuits in use in the early fifties.

TELEGRAPH STATISTICS

(Values are in decimals of a million)

Year	External (Words)		Internal (Words)		Total Revenue
	Sent	Received	Govt. Sent	Private Sent	
					\$
1952	0.82	0.94	1.77	1.46	0.41
1953	0.93	1.06	2.03	2.05	0.44
1954	0.88	0.89	1.81	1.99	0.42
1955	0.96	0.95	2.11	1.38	0.47
1956	0.86	0.95	2.42	1.42	0.46
1957	0.93	0.86	2.19	1.16	0.37
1958	0.84	0.46	1.68	1.09	0.41
1959	0.96	1.02	1.54	1.92	0.34
1960	1.04	1.07	1.60	0.82	0.39
1961	1.11	1.18	0.86	0.66	0.38
1962	1.42	1.33	0.95	0.42	0.40

Radio and Trunk Network

Internal and Inter-territorial trunk communication network plans are advanced and H.F. Independent Sideband circuits which will permit a 24-hour service Kuching/Jesselton and Kuching/Miri are to be installed in 1963.

Financial provision has been given for a radio survey of the Kuching/Sibu and Simanggang routes. It is expected that installation of a microwave system will follow this survey in the next few years providing circuits up to international standards on these routes where traffic offering is greatest.

Radio equipment is arriving in Sarawak which will, in conjunction with new automatic exchanges, provide high class telephone service to existing rural exchanges, and a Radio Call Service is being installed which will permit the remoter villages to be connected to the telephone network.

Postal Services

There were forty-two Post Offices open for service at the end of 1962 and a new Central Parcels Office was opened in Kuching. The number of parcels handled in Sarawak is comparatively large and the new Parcels Office permits more efficient handling and better service to the public.

The volume of ordinary inward and outward mail continued to increase. Stamp sales, boosted in 1960/61 as the result of large despatches of small packet mail to China Mainland, fell in 1962 when this traffic resumed a normal trend.

Advantage has been taken of the opening of new roads in Sarawak during 1962 to introduce a daily mail service between the Capital and the Second Division, and the first Mobile Post Office is to be introduced in Sarawak in 1963.

PARCELS STATISTICS

Year	Value of C.O.D. Parcels received from		Number of Ordinary Parcels		Number of Air Parcels	
	U.K.	Malaya	despatched	received	despatched	received
	\$	\$				
1952	54,800	527,500	14,280	32,350	—	—
1953	45,900	575,400	11,470	23,600	—	—
1954	36,500	579,200	13,130	28,320	—	—
1955	33,900	451,000	14,380	36,140	—	—
1956	29,290	390,640	17,770	40,700	—	—
1957	27,010	492,190	20,198	74,055	—	—
1958	26,225	451,515	21,723	45,856	—	—
1959	34,033	500,512	21,443	48,776	119	1,988
1960	29,153	614,287	27,036	56,983	148	2,903
1961	25,909	550,435	37,488	54,808	437	2,911
1962	21,600	593,392	37,619	55,253	941	3,687

POSTAGE STAMPS STATISTICS

Year	Stamps Sold Total Revenue
1952	\$ 242,000
1953	358,000
1954	369,000
1955	436,000
1956	463,000
1957	664,000
1958	652,000
1959	742,000
1960	1,096,000
1961	1,130,000
1962	1,079,000

Radio Licences

Sales of Broadcast Receiving Licences continued to increase and licences issued now represent some 5 per cent of the total population of Sarawak. The policy of differentiation between the cost of the battery and mains type of licence is one that must be reviewed again in 1963 with a view to establishing a standard charge for all classes of receiver.

There were 196 licensed radio dealers in Sarawak at the end of 1962.

RADIO LICENCES STATISTICS

Year	Number of Mains Sets	Number of Battery Sets	Total	Revenue*
				\$
1957	5,764	17,665	23,429	109,837
1958	6,395	19,406	25,801	122,825
1959	6,656	21,681	28,337	131,519
1960	7,370	26,459	33,829	151,800
1961	7,585	29,168	36,753	163,161
1962	7,828	32,468	40,296	174,947

* Revenue includes Radio Dealers' Licence fees.

Other Services

Departmental maintenance and expansion of telecommunications equipment used by the Police, Civil Aviation, Marine and Information Departments was continued throughout 1962 and the *ulu* radio service in the Fourth and Fifth Divisions was controlled by Departmental Stations at Marudi and Lawas.

At the beginning of the Emergency in Sarawak early in December the Department was called upon to provide many additional services for both Government and the Armed Forces. Services on a 24-hour basis were immediately established in all centres where required.

XV

INFORMATION, PRESS AND BROADCASTING

THE year 1962 was an eventful one in the fields of press and information. In particular, it saw much change in the Chinese press. The *Ta Tung Daily News*, the oldest Chinese daily paper in Sibü, ran into financial difficulties, had a strike when it tried to reduce costs and ceased publication on the 1st May. The *Ing Ing News* commenced publication in Sibü in June but was unable to pay its way and closed down in October. Three papers, the *Sin Wen Pau* of Kuching, the *Min Chong Pau*, Sibü, and the *Sa Min Daily* of Miri were closed down by Government action in December after the Brunei revolt. These papers had become the vehicle for strident communist propaganda. Warnings were ignored and by the end of the year their subversive activities had become intolerable.

Two new papers, the *Ta Chung Daily News* and the *Borneo Daily News* commenced publication in September and December in Kuching and Sibü respectively.

The Information Office continued to cater for the needs of the press and to provide a regular stream of press releases and the subsidised daily Reuter News Service. The Department had a particularly busy time during the visit of the Cobbold Commission and in publicising and explaining the Malaysia proposals. The Brunei revolt also put a heavy strain on the staff of the Department but every effort was made to secure as much news of the fast moving events as possible.

A wide variety of press releases are produced daily and translated into Chinese and sent to all newspapers in Borneo and to Radio Sarawak. These releases are incorporated in a weekly news sheet entitled *Sarawak by the Week* which also appears in Malay, Iban and Chinese. This news sheet is in effect a weekly newspaper. It was greatly improved during the year by the introduction of good quality photographs produced from a

Gestelith offset duplicator. The photographic section of the Department was busily engaged throughout the year.

Among the many press conferences arranged by the Information Office was one for the Malayan Prime Minister, Tengku Abdul Rahman.

The Information Office seeks to provide complete and rapid coverage of proceedings in Council Negri and with the increasing activity of that body this has become a very major commitment in the office as at present constituted. The local newspapers being comparatively small, it is not possible for them to provide full services of this kind themselves.

The transmission of news in Chinese still presents difficulties. This particularly relates to the Reuter Service which is taken by Government for the benefit of the local papers and translated into Chinese. However, approval was given during the year for the purchase of facsimile equipment which, it is hoped, will be installed in mid-1963 for use between Kuching and Sibü.

A new work room was installed by the conversion of the old garages which now includes a battery of duplicators, an offset duplicator and a dark room for the making of plates.

A new introduction during the year was *Chermin Sarawak* (the Sarawak Mirror) an illustrated wall sheet. Eleven issues were produced dealing with a wide variety of topics particularly relating to health and agriculture. One issue was devoted to the Cobbold Commission Report. These wall sheets are multi-lingual in nature and circulation is 9,500.

The monthly Iban and Malay papers *Pembrita* and *Pedomän Ra'ayat* continue to appear successfully. Particular attention is paid to producing a limited amount of material in these papers in simplified form and in large type for the benefit of the newly literate.

The film units enjoyed another useful year and the organisation has been strengthened by the appointment of a full-time Film Librarian. A major problem is the limited amount of material taken in Bornean setting as such films are by far the most popular for rural audiences.

A special publication of interest was *The Countryman's Guide to Politics* of which 40,000 copies were produced in eight languages and widely distributed. This aimed to improve understanding of politics in the countryside and appeared to fill a very definite need. A summarised publication entitled *Sarawak in Brief* was also prepared during the year which sets out many facts about Sarawak in shortened form.

The Department organised a successful Sarawak Colombo Plan exhibit in Melbourne in November which was set up by the Department's Artist.

BROADCASTING

Radio Sarawak had been on the air for eight and a half years at the end of 1962, having been formally inaugurated in June, 1954. Planning for the establishment of the service began early in 1951 based upon a technical survey and much assistance and advice from the British Broadcasting Corporation. Planning was further encouraged by an initial grant of nearly £50,000 made towards the capital cost by the British Government. The Sarawak Government appropriated an additional £70,000 to get the service off to a good start with what were then the most modern of studios and equipment.

Broadcasting in Sarawak literally started from scratch. There was no experience of broadcasting in the country and no pool of experienced engineers or programme producers which could be tapped. Staff had either to be recruited in small numbers overseas or, for the most part, found locally and trained on the spot. Artistic talent was then difficult to find and acceptable contributors were slow to come forward.

Since those days great progress has been made, always with further financial aid from Britain and with help in many ways from other Commonwealth broadcasting organisations. In 1954 there were less than 7,000 radio receivers in the country; now there are over 45,000. Local artistic productions, drama and spoken-word programmes compare favourably with those broadcast from neighbouring countries. Further capital grants totalling over £105,000 were made by Britain between 1956 and 1962 and the Sarawak Government itself invested substantially in broad-

casting through increased capital development and recurrent expenditure. Particularly valuable, also, has been the assistance of Commonwealth governments under the Colombo Plan in establishing and developing the Schools Broadcasting Service, both by the provision of staff at the broadcasting end and the donation of many radio sets at the receiving end in school classrooms.

Radio Sarawak set itself from the start to establish standards and traditions of public service broadcasting which would command the respect of its listeners. Despite inevitable shortcomings there is no evidence to believe that these aims have fallen unduly short of the public's expectations.

Nearly all the staff of Radio Sarawak are local born and although highly intelligent, many of them had had but little contact with the outside world when broadcasting started in 1954. Staff training was therefore of the utmost importance from the beginning and there were two main streams, the programme organisers and the engineers. Both required basic training in the technique of programme production which was gained from seconded British Broadcasting Corporation programme producers but beyond that basic necessity their aims were different. The programme organiser is essentially a creative personality and to realise his capabilities fully he must travel and see what other people do. Since 1954, some eighteen members of the programme staff of Radio Sarawak have between them had nine years' experience in the United Kingdom, Australia, New Zealand or the United States. For the engineers there is no escape from the necessity for sound basic technical knowledge such as can be acquired only by continuous four or five years' study in a Technical College or University. Nine young Sarawak men have embarked on such a course, eight in Australia and one in New Zealand. The first of these returned to Sarawak early in 1963 with a Bachelor of Science Degree and the others will follow within the next two to three years. Meanwhile nine technicians have been sent on attachment training courses in the United Kingdom, Canada and Australia totalling between them a training period of three years.

Plans for the largest expansion of Radio Sarawak's technical installations and services since Broadcasting was inaugurated

in 1953 were put in train during the year. At a cost of over \$800,000 a new transmitting station site, more than 300 acres in area, is being developed at Stapok, near Kuching, extensive new aerial arrays erected and a considerably larger transmitter house, incorporating the most modern technical thinking, built to accommodate new equipment. Two 20 Kilowatt transmitters, in each case 10 Kilowatts \times 2 in parallel, will be installed to strengthen short wave propagation throughout the country. The basic power of both these transmissions will be increased many times by the use of directional aerials. Transmitters now in use at the present transmitting station will be moved to the new site and the whole operation, which commenced late in the year, is expected to be completed by mid-1963. Sarawak has again to thank the British Government for a further grant of over \$450,000 towards the cost of this development programme.

It is expected that these powerful new short wave transmissions will enable listeners throughout Sarawak to receive regularly the loud, clear and reliable signal which is particularly important to the bulk of the population living in remote rural areas. This will facilitate the expansion and development of educational broadcasts to schools and other adult educational programmes in support of the Government's rural development policy.

During 1962, programmes in Melanau and the Land Dayak language, Biatah, were further extended, as was the content of news bulletins and political commentaries in all services. The high standard of local productions further increased as a result of the rising performance and self-confidence of local artists and contributors in all language programmes. News services and political commentary of high objectivity and impartiality have maintained their maximum number of listeners.

Staff training has continued at a steady pace, and a further eight members of the staff proceeded to Europe and Australia for higher professional studies during the year. Eleven more programme producers and broadcasting technicians will be leaving on similar courses of study in Canada, Britain and Australia during 1963. Since the inception of Broadcasting in Sarawak,

such training and experience overseas in the latest technical and production methods have been of the greatest value. The acquisition of new ideas and broader horizons, the consciousness of keeping abreast of the technological revolution, and the self-confidence inspired by study at first hand of the policy and methods of other associated broadcasting services throughout the world have greatly helped to formulate and maintain the high standard now expected of Radio Sarawak.

BORNEO LITERATURE BUREAU

The Borneo Literature Bureau is a publishing and bookselling organization which helps to provide suitable books for the Bornean peoples and build up the local commercial booktrade. It encourages local writers and publishes a wide variety of books and other items for sale. The Sarawak and North Borneo Governments share most of the recurrent costs of operating the Bureau, but it is partially self-supporting and some of its work is financed from the revenue it receives from the sale of books.

Two or three years ago it was virtually impossible for most people living outside the towns in Borneo to buy books; but the Bureau has now encouraged the establishment of a large number of rural booksellers. This has made it easier for the Bureau's wholesale bookselling organization to function. It is estimated that the Bureau sold 500,000 books and 180,000 magazines in 1962. This is an increase of 1,000 per cent on the figures for 1960. This considerable expansion has been achieved at the cost of only an additional three per cent in the annual subsidies provided by the Governments.

The Bureau began its publishing operations in 1960. Much of its initial work has been concerned with assisting the Education Departments by publishing suitable school textbooks. But during the last year it has begun to receive and publish a far greater number of manuscripts of general interest written by local authors. Of the twenty-seven new books published during the year, eight were written entirely by local authors.

Most of the books published by the Bureau have been in English, but it has also published a fair number in Chinese and Iban and a few in seven other Bornean languages and Malay.

Subjects covered by these books include folk tales, legends and fiction, as well as a wide range of text-books and works of a general and informational nature. One of its most important publications is a monthly magazine in English for children entitled *Dolphin*. Sales of this magazine reached 10,500 copies monthly in 1962; a Chinese edition is also published. Other items published by the Bureau include maps, educational games, posters, charts and leaflets.

Before the Bureau began its operations there were very few books specially produced for local readers, but a steady stream of books is now being published and the Bureau's long-term aim of building up a local literature is beginning to be fulfilled.

XVI

LOCAL FORCES

Sarawak Rangers

DURING the year the unit has continued its general training and improved its standard of efficiency.

It now consists of three tracking platoons, an animal transport section and a dog section and is commanded by Major D. L. Bruce-Merrie, M.C. The total strength now stands at five British officers, one Iban officer and 156 Iban other ranks.

The whole unit was engaged in a 3-month exercise in January, February and March. This was the culmination of the previous year's training. The exercise took place in the State of Pahang, in the Federation of Malaya. In all some 80-90 miles of primary jungle were negotiated during the exercise, which ended in the Cameron Highlands. As a result the unit's standard of training improved immensely.

In April a new intake of recruits was enlisted and after their training was completed a passing-out parade was held at which the inspecting officer was Mr. A. J. N. Richards, Resident of the Second Division.

Later in the year, in November, sixteen North Borneo ponies were obtained and the animal transport section began its training. The men are now showing great promise and have received much praise for the way they handle and care for their animals.

The Iban officer in the unit, Lieutenant James Tomlow anak Isa has attended courses in England during the year and another potential Iban officer is being trained in England now. He will return to the unit with a commission in 1963. Two more Iban NCOs have also attended courses in England during the year.

Further construction of married quarters has made it possible to increase the number of Iban families now with the unit in Malaya to thirty-six.

At the end of the year the bulk of the unit went to Brunei to assist in quelling the rebellion there. While in Brunei the men of the Sarawak Rangers have shown themselves well able to carry out their operational duties and have also been of great assistance to British and Gurkha units also engaged on operations.

PART III

I

GEOGRAPHY AND CLIMATE

SARAWAK lies between latitudes $0^{\circ} 50'$ and 5° North and longitudes $109^{\circ} 36'$ and $115^{\circ} 40'$ East, occupying most of the north-western coastal area of the island of Borneo. With an area of about 48,250 square miles the territory covers a little less than one-sixth of the island, which is the third largest in the world and the largest of the 3,000 or more islands comprising the East Indies Archipelago.

The boundary between Sarawak and Indonesian Borneo follows the watershed between the rivers flowing generally north-westerly into the South China Sea and those flowing into the Celebes and the Java Seas. Although much of this watershed is not particularly high the country is generally rugged and topographically complex, and the boundary is unsurveyed. Because of the almost continuous presence of heavy cloud, part of this boundary and the adjoining Sarawak territory have not yet been covered by satisfactory air photography and only preliminary reconnaissance mapping is available. In the north, Sarawak adjoins North Borneo and in the north-west the State of Brunei forms a double enclave. The boundaries between Sarawak and these two countries run through much easier country and sections have been surveyed as the need has arisen.

Mount Murud, at 7,950 feet, is Sarawak's highest mountain, dominating an area of practically unexplored ravines, plateaux and involved mountain ranges rising to over 5,000 feet. Knowledge of this area has been gained by visual reconnaissance from Royal Air Force aircraft (aerial photography) and by various expeditions, notably those of the Sarawak Museum, Geological Survey Department and the Oxford University Expedition to the Usun Apau Plateau region in 1956.

The remainder of the country comprises an alluvial coastal plain and a belt of undulating country separating the coastal plain from the sharply rising mountainous interior. The coastal

plain varies in width from less than a mile at Miri to over a hundred miles, and contains large areas of peat swamps of various depths. The beaches are generally of mud and mangrove or *nipah* palm. The belt of undulating country is broken by a few mountain groups, generally not more than 2,500 feet in height. Shallow coastal waters and the existence of bars at river mouths limit the development of deep sea ports.

The main rivers rise in the interior ranges and flow fast through deep gorges and over numerous rapids until they reach the undulating country and the coastal plains, where they meander towards the sea. In spite of the high rainfall and the steepness of the interior mountains no spectacular waterfalls have yet been discovered, the rivers descending to the undulating country in a series of rapids rather than by waterfalls. The largest river, the Rejang, has a length of 350 miles and is navigable for small coastal steamers as far as Kapit, 150 miles upriver.

The greater part of Sarawak is still covered by primary rain forest, and large areas are practically uninhabited except for scattered bands of nomadic Penans. Much of the remainder of the land is used for agriculture, largely shifting cultivation or bush fallow farming. One distinctive feature of the country is the large areas of swamp forest. These forests produce the bulk of the timber exported, notably *ramin*, one of the main exports and used extensively in Great Britain and Australia for making furniture. There are a few small areas of natural grassland near the coast on which cattle are raised, but grazing land, either natural or developed, is very limited.

Principal Towns

Kuching, the capital, is situated on the Sarawak River twenty-one miles from the sea. The new port fourteen miles from the sea can accommodate ships up to 350 feet long and with a draught of up to seventeen feet. Besides being the seat of Government for Sarawak, Kuching is the administrative headquarters for the First Division. The town is growing rapidly, the population of the municipal area being 50,600 of whom the trading community is mainly Chinese, with large Malay and other small communities occupying suburban areas. The main part of the town, with its wharves and warehouses, Government

offices, museum and other public buildings, schools and places of worship of the various communities, and the main residential areas, is on the south side of the Sarawak River. Access to the north side is mainly by small passenger ferry but vehicles may reach the northern residential areas across the river by a suspension bridge and a minor road. On the north bank of the river directly opposite the centre of the town are situated the Governor's residence, the Astana, formerly the palace of the Rajahs of Sarawak, and Fort Margherita, another link with old Sarawak. Behind these buildings are residential areas and on the river banks upstream and down are extensive Malay *kampongs*. The business part of the town and the inner suburbs are administered by a fully-elected Municipal Council and control of the outer suburbs and residential areas is in the hands of the Rural District Council.

Sibu is the second largest town in the territory and is expanding very rapidly. It is situated about eighty miles from the sea at the head of the Rejang delta and can be reached by ships of up to 2,500 tons. The population was 29,630 at the 1960 census and the town is the administrative headquarters of the Third Division. It is low-lying and subject to flooding when the spring tides coincide with the arrival of floodwaters from the Rejang catchment areas. The inhabitants of the town are mainly Chinese, with Malay, Iban and Melanau settlements adjoining the business areas. Sibu, with Sarikei and Binatang lower down the river, handles a large proportion of the import and export trade of the country.

Miri is the administrative headquarters of the Fourth Division and owes its existence to the opening of the Sarawak oilfields in 1910. Although oil is still produced, the neighbouring oilfields of Brunei have become of far greater importance. All the oil won in British Borneo is exported through Lutong which is in Sarawak, seven miles north of Miri. The Miri river has a shallow bar which prevents all but small coastal vessels from entering, and the shallow coastal waters force larger ships to anchor about three miles out to sea. General cargo is handled by lighter and oil from the Lutong refinery and storage tanks is loaded through underwater pipelines.

Simanggang and Limbang are the administrative headquarters of the Second and Fifth Divisions respectively. Both have bazaars and wharves for coastal and river launches. Navigation on the Lupar River, on which Simanggang lies, is hampered by a tidal bore.

Binatang and Sarikei are the main towns of the Rejang River delta and are important ports for overseas shipments of pepper, timber and other products of the Rejang River plains. The Tanjong Mani deep water anchorage further down the river can accommodate vessels of up to 10,000 tons.

Of the other towns Bintulu is the largest and development of this coastal town should follow the opening up of the hinterland for rubber growing.

CLIMATE

The characteristic features of the climate of Sarawak are heavy rainfall, a uniform temperature and high humidity.

The mean annual rainfall at Kuching is 158 inches. This compares with London's mean annual of twenty-four inches, New York's forty-two inches, and Singapore's ninety-five. It is not unusual for rainfall to exceed eight inches in a day at one place (especially during the north-east monsoon) whilst at another place sixty miles away there is no rain recorded during the same period. A large area of the country receives between 120 and 160 inches of rain. The highest recorded fall is at Long Akah up the Baram River, with a mean annual rainfall of 236 inches.

The surface mean temperature varies between 72°F and 88°F with the highest recorded maximum 97°F and the lowest minimum 68°F. The relative humidity is generally high throughout the year.

From the beginning of October until nearly the end of February, the north-east monsoon brings heavy rainfall, particularly in the coastal belt. The monsoon moves at a fairly uniform speed across the China Seas, but once south of latitude 5°N, its average speed decreases, and at times its boundary may become stationary or even make a temporary retreat. The rain accompanying the boundary may then persist for several days

and add substantially to the total rainfall. An exposed coastal belt like Sarawak is therefore heavily influenced by this boundary layer on its southmost trends, giving a rainfall of twenty inches and more during, usually, November, December and January, whilst areas in Borneo south of Sarawak (except the north-west coast of Indonesian Borneo) are sheltered from this.

Four seasons can be distinguished: the north-east monsoon—as has been said—from October to January or February; the mild south-east monsoon from April to July or August, and two shorter seasons of about eight weeks each, separating the end of one from the beginning of the other.

During the south-east monsoon, Kuching's mean monthly rainfall is nine inches, mostly in the afternoon between three and six o'clock. At Miri during the same period the heaviest rain is from thunderstorms of sharp intensity during the early hours after midnight. During these months particularly, the form and movement of storms makes it doubtful that a single observation station in a given area, say Miri Town, is at all representative of rainfall in the immediate surroundings. There are insufficient observation stations in concentrated areas to make isohyetal patterns associated with individual storms. Yet it is from these thunderstorms that the heavy rainfall comes.

In spite of the heavy rains, there are long periods of bright sunshine. From March to October there are usually between 180 and 220 hours of bright sunshine each month. From November to February, there are between 100 and 180 hours of bright sunshine monthly.

There is no weather forecasting office. There are four meteorological observation stations and forty-two rainfall recording stations.

The Appendix D at pages 346-349 gives climatological summaries for Kuching, Sibü, Bintulu and Miri.

II

GEOLOGY

THE island of Borneo is at a focal point between the mainland of Asia and the Indonesian and Philippine Archipelagos. Its complex geology has evolved from interaction between the Sunda Shield, a stable mass of pre-Tertiary rocks that extends from Malaya into western Borneo, including west Sarawak, and the powerful earth movements that gave rise to the surrounding arc of islands built of younger sedimentary and volcanic rocks.

During Jurassic times, the northern flank of the Sunda Shield in the Sarawak area became submerged below the sea and, by late Cretaceous times, a great downwarp of the Earth's crust had developed along that flank. Sediments eroded from the Shield were deposited in this downwarp or geosyncline, together with the products of submarine volcanic activity. In succeeding Tertiary times, sediment was deposited farther and farther from the Shield, so that the youngest rocks in Sarawak are now to be found along and inland from the coast between Bintulu and Miri. During this time, the sea invaded part or possibly even the whole of west Sarawak and sand, mud, and peat were deposited on the Shield rocks and are now represented by the sandstone, shale, and coal of the Klinkang Range, south of the Serian to Simanggang Road, and such flat-topped hills as those visible in the west from Kuching. Disturbance of these rock sequences by earth movements, followed by erosion, has produced the geology of Sarawak as it can be seen today, some of the products of erosion forming the coastal fringe of alluvial plains and swamps, but most of them carried out into the wide flat shelf area of the South China Sea.

GEOLOGICAL MAPPING

The unravelling of the details of this story and the mapping of the rock formations of which Sarawak is built have been the main tasks of the Geological Survey Department since its

inception in 1949. Fortunately they were not the first to undertake such work, as a great deal had already been done by geologists searching for oil, and Sarawak Oilfields Limited, later Sarawak Shell Oilfields Limited, generously made available the results of their work and, during the succeeding years, have rendered invaluable assistance to the Survey. Through this, and by the application of modern mapping methods, such as the extensive use of photogeology, the Survey has been able to complete a geological reconnaissance of the whole of Sarawak, dealing not only with the rocks that interest oil geologists, but also every other kind of rock that outcrops in this country. This reconnaissance has stimulated interest in the coal and metalliferous minerals of Sarawak and has provided the essential basic information that can be and has been used in soil surveys, the search for roadstone and fertilizers, and many other activities that depend on an understanding of the fundamental origin of the country, its rocks, mountains, hills, valleys and plains.

Large parts of the country have been shown to be built of monotonous sequences of sandstone and shale that are unlikely to contain anything of value except coal and oil. Further mapping of these will not be necessary, at least until the country is more highly developed, but the complex mineral-bearing area of west Sarawak and a geologically interesting and possibly important area south of Bintulu need to be known in much greater detail. A start has been made on this by mapping in the Sematan-Lundu, Penrissen and Serian areas on a scale of 1:50,000. In 1963, detailed remapping of the Bau area will be started, partly to enhance knowledge of the rock formations and mineralisation, and partly to provide the information necessary for guidance of a programme of drilling to search for gold at depths greater than those at which it has so far been mined.

RESEARCH

Now that the whole of Sarawak has been mapped geologically on a reconnaissance basis, the Geological Survey is turning some of its attention to the off-shore areas of the Sunda Shelf. The objects are to see whether the geological map can be extended into that area and to learn as much as possible about modern

conditions of sedimentation on the Shelf, in the hope that these may assist in interpretation of the rocks of the mainland. In June, 1962, three geologists from the Department accompanied the Scripps Institution oceanographic research vessel *Argo* from Jesselton to Singapore and took part in the scientific work on board. With this initial experience, plans are being made for similar research off the Sarawak and North Borneo coasts in 1963. HMS *Dampier* called at Kuching in November, 1962, so that these plans could be discussed with her Commanding Officer, and assistance has been promised by the Hydrographic Branch of the Admiralty.

The basic research on which the Geological Survey is engaged is supplemented by such techniques as chemical analyses of rocks, assays of minerals and ores, testing of the strength of rocks and constructional materials, palaeontological research, geophysical surveys, and the dating of rocks from the breakdown of radioactive elements. These techniques require either specialised equipment that cannot economically be bought for use in a small survey, or specialised knowledge that is not available to the Department in Sarawak. The Geological Survey is fortunate in being able to call for assistance with such techniques from outside organisations such as the Mineral Resources, Geophysical, and Photogeological Divisions of Overseas Geological Surveys, London; the British Museum (Natural History); the Royal Dutch/Shell Group companies in Seria, Brunei; the Australian Commonwealth Scientific and Industrial Research Organisation and Australian Mineral Development Laboratories; the Sarawak Departments of Agriculture and Public Works; and universities in the United Kingdom, Australia, New Zealand and the United States.

INTERNATIONAL MEETINGS

Officers from the Geological Survey Department attended three international meetings during 1962: the Regional Conference of Southeast Asian Geographers in Kuala Lumpur, Malaya; the Second E.C.A.F.E. Symposium on the Development of the Petroleum Resources of Asia and the Far East, in Tehran, Iran; and a meeting of the Commission on the Geological Map of the World, in Paris.

GEOLOGICAL SURVEY DEPARTMENT

The Geological Survey Office in Kuching is the headquarters of a combined department established in 1949 for Sarawak and North Borneo. It operates also in the State of Brunei when requested by the Brunei Government. The professional staff consists of a Director (stationed in Kuching), a Deputy Director (stationed in Jesselton, North Borneo), six Geologists and two Assistant Geologists. Two local students are in Canada on degree courses in Geology under the Colombo Plan and, if they are successful in their examinations, will be appointed to the Survey on their return, bringing the total number of local trainees up to four. The Librarian in Kuching was trained in New Zealand, also under the Colombo Plan, and arrangements are in hand for similar training for a Senior Technical Assistant to take charge of the workshop and laboratory.

Field expeditions go from headquarters on jungle trips ranging from a few days to several months, the geologists then returning for laboratory work on the materials collected and for report-writing and map-making. The office includes a laboratory, a workshop and a reference library containing text-books, an extensive collection of publications obtained on an exchange basis from overseas, and records of past geological and mineral exploration.

PUBLICATIONS

Annual Reports of the Geological Survey Department, 1949 to 1962 (Kuching, Government Printing Office). An annual pamphlet, *Minerals in British Borneo*, has been published since 1961.

Memoirs: (These seven memoirs, with accompanying coloured geological maps, describe the geology and mineral resources of the whole of Sarawak. *Bulletin 3*, listed below, is a compilation on the geology of Sarawak, Brunei and the western part of North Borneo):

Memoir 1. *The Geology and Mineral Resources of the Strap and Sadong Valleys, West Sarawak, including the Klingkang Range Coal*, by N. S. Haile. (Kuching, Government Printing Office, 1954).

- Memoir 3. *The Geology and Mineral Resources of the Kuching-Lundu Area, West Sarawak, including the Bau Mining District*, by G. E. Wilford. (Kuching, Government Printing Office, 1955).
- Memoir 7. *The Geology and Mineral Resources of the Lupar and Saribas Valleys, West Sarawak*, by N. S. Haile. (Kuching, Government Printing Office, 1957).
- Memoir 8. *The Geology and Mineral Resources of the Upper Rajang and Adjacent Areas*, by H. J. C. Kirk. (Kuching, Government Printing Office, 1958).
- Memoir 10. *The Geology and Mineral Resources of Brunei and Adjacent Parts of Sarawak*, by G. E. Wilford. (Brunei Press Limited, 1961).
- Memoir 11. *The Geology and Mineral Resources of the Lower Rajang Valley and Adjoining Areas, Sarawak*, by E. B. Wolfenden. (Kuching, Government Printing Office, 1960).
- Memoir 13. *The Geology and Mineral Resources of the Suai-Baram Area, Sarawak*, by N. S. Haile. (Kuching, Government Printing Office, 1962).

Bulletins:

- Bulletin 2. *Geological Accounts of West Borneo*, translated from the Dutch, edited by N. S. Haile. (Kuching, Government Printing Office, 1955).
- Bulletin 3. *The Geology of Sarawak, Brunei and the Western Part of North Borneo*, by P. Liechti et al. (Kuching, Government Printing Office, 1960).

III

HISTORY

I — PREHISTORY

Stone Ages

THE principal work undertaken in this field during 1962 was in continuation of a long-term programme for extensive excavations at the Niah Caves, Fourth Division. As a result of six previous digging "seasons" (1954 and 1957-62) there, Niah has become world-renowned. This is the only large-scale stone-age archaeology at present being undertaken in South-east Asia—mainly because of culturally unstable or politically disturbed conditions in other territories previously active in the study of prehistory.

The 1962 dig was based partly on regular staff resident in the area, working over the summer months, plus an intensive period of special study in November and early December. By good chance, the excavation programme was due to be completed on the 11th December, on which day the Kedayan revolt spread westward into the Niah district—but without, in fact, interfering either then or subsequently with our local programme or personnel. Special attention was paid during the year to the famed Painted Caves, which have attracted world wide interest through photographs in *Life Magazine* and elsewhere. This aspect of Sarawak's fascinating prehistory will therefore be dealt with first this year.

The Painted Caves at Niah, 1962

The Painted Caves are so called because of the great expanse of wall paintings executed in red haematite (iron ore) on the glistening white limestone walls and ceilings by the unknown ancestors of present Borneans. The Caves were discovered by Barbara Harrisson in 1958, excavation began in 1959 (see Annual Report, 1960; p.189) and continued on a large scale in 1961 (see Annual Report, 1961; p.183).

During 1962 specimens of prehistoric material properly excavated from the Painted Cave system, which honeycombs one particular outcrop of the Subis mountain, reached a total of nearly 200,000 pieces. The main field work in this section is now complete, except for a few details. But a large amount of analysis, reconstruction and laboratory work remains to be done, both at Museum headquarters in Kuching and by experts to whom we send material in other countries. It is hoped, before the end of 1963, to have in draft the first full scale monograph and this is scheduled to be published as one of the special volumes of *Artibus Asiae*, hand-printed at Ascona, Switzerland.

Special attention was devoted this year to relating the vivid wall paintings to the extraordinary model death ships which are scattered about the floor of two of these Caves. By very careful brushing of the under-soil it proved possible to establish the positions of post-holes spread below the main line of murals—which also feature death ships as a main theme. A set of upright posts found in the ground fitted exactly into these post-holes. On to these, the death ships settled nicely. Inside the death ships were masses of bone, teeth, ornaments and other accessories. Clearly, the main meaning of all this activity high up in a remote corner of the Niah limestone was to do with the ritual re-burial of the dried-out remains of the dead—what ethnologists call “secondary burial”.

This year we were also able to demonstrate that the approaches into the Cave have been specially treated in the ancient past. Steps have been cut or worn into the basic rock of the Cave mouth. And the limestone of the underlying floor itself has been trodden and polished by what can only be massive human dancing as part of these lost ceremonials. Subsequent human activities and the natural depositions of the Cave fauna and flora have overlaid this dancing floor, which we only reached for the first time in November, 1962. Among the materials scattered over several hundred square feet are several thousand broken sherds of prehistoric earthenware and of very early Chinese stonewares and porcelains. These are gradually being re-assembled into their original forms at the Sarawak Museum, so that we can identify the exact shape and technique. It is

already evident that they include fine examples of some of the earliest known high quality ceramic products in the Far East. Noticeable are the number of delicate moon-white and pale grey Yuëh-wares. As a result of a symposium attended by the Curator and held at Hawaii last year, it has already been widely agreed that some of these Yuëh are probably much older than has previously been thought, and date back to the beginning of the Christian era. They had hitherto always been assumed to be of the T'ang Dynasty (618-907 A.D. or later). Now, new research with magnetic methods of dating devices at Oxford University have confirmed this early contribution for some of the Yuëh collection in the Ashmolean Museum at Oxford—the finest collection of its kind anywhere. And this makes good sense, much nearer home, in the Niah context, where all the other indications are also that the Painted Caves belong to an earlier period—though far from the earliest at Niah, of course (see below).

These porcelains and earthenwares, along with quantities of ornamental beads, pieces of bronze and carved bone, all go to suggest a high flowering of ritual life and material riches in west Borneo much longer ago than most scholars have been prepared to accept. Indeed, as the Niah researches continue, it becomes slowly but steadily clearer that man developed certain abilities and attitudes in west Borneo remarkably early on; and with some special local features not yet found so fully elsewhere in South-east Asia.

During the latter part of 1962, also, excavation was extended to the lower section of the main Painted Cave and to the exploration of the great cliffs which encircle this part of the Subis mountain massif. Especially exciting was the discovery, in a series of small grottos high up on a ledge, of remains which had lain in the cool dark for centuries and been exceptionally well preserved, even by Niah standards. These include some fine pieces of bronze, which generally decays within a few centuries in this climate. Some complete pieces of woodwork, including a fine paddle, and fragments of textiles and cord which should give new clues to the sources of craftsmanship in those forgotten times.

The Overall Niah Picture

In this chapter so far we have put the emphasis on the present year's activities which have mainly been centred on the study of prehistory within the last 3,000 years at Niah. It so happened that this was the emphasis of our programme for the year. In 1963, we hope to be paying much more attention to the very much earlier periods, probing down to as early—all being well—as 100,000 B.C. The time scale at Niah is so extensive and the material so rich that a brief overall summary is necessary at this stage—particularly as it will take at least four more years to complete even the initial phase of the Niah work as now planned.

Results already to hand have altered the picture of Bornean prehistory, and thrown some new light over a much wider area—as increasingly attested by outside writers in recent issues of *Discovery*, *Exploration*, *Antiquity*, *Scientific American*, *Nature*, *Asian Perspectives* and other journals. Reports on Niah work have also been published in German, Japanese, Chinese, Dutch and Italian during the year.

By the now well-established method of determining age through declining radio-activity, it has proved possible to get some quite accurate dates from Niah. Radio Carbon-14 and other test materials indicate that the Sarawak Museum unit is now excavating well below 50,000 B.C. In 1962 a further small extension downward from the previous lowest probe indicated that there is still a considerable way to go before bedrock is reached. As a rough working hypothesis at Niah, one inch of excavation is taken as normally representing between 200 and 300 years of past human depositional activity. The greater part of the matter excavated to date is primarily of human and only secondarily (often negligibly) of geological origin.

At the present stage, it is only safe to generalise for the upper levels at Niah in a preliminary way. The initial picture here—although subject to modification as a result of further study—provides the fullest yet available from any one site in orderly sequence in this part of the world.

PRELIMINARY NIAH PHASEOLOGY

(as dug so far)

<i>Phase</i>	<i>Main Characteristics</i>	<i>Approximate Niah Start Date (Estimated)</i>	<i>Methods of Dating</i>
1. Late Middle Palaeolithic	"Mid-Sohan" Flake	40-50,000 B.C.	Flakes below C-14
2. Upper Palaeolithic (i)	Chopping tools and large flake tools	30,000 B.C.	Strata with C-14
3. Upper Palaeolithic (ii)	Small Flakes	25-30,000 B.C.	C-14
4. "Palaeo-Mesolithic"	Advanced Flake	10,000 B.C.	C-14 and Stratification
5. "Mesolithic"	Edge-ground tools; Melanoid dentitions	c.7,000 B.C.	Stratification
6. Neolithic (i)	Polished tools	c.4,000 B.C.	Stratification
7. Neolithic (ii)	Mongoloid dentitions; pottery		Stratification, comparisons and C-14
8. Chalcolithic	Metal traces; elaborate pottery	c.250 B.C.	Known associations and C-14

As the excavation goes deeper at Niah, problems of technique and phase-sequence determination become increasingly complicated. The Radio-Carbon method is seldom reliable beyond 50,000 years. It is hoped to apply the new Potassium Argon method to deeper layers in the near future, but this is still experimental as well as very expensive. With the assistance of Shell and American palaeontologists, efforts are being made to apply techniques of pollen sampling and volcanic-ash content, and the study of fossil oyster and other material located *in situ* inside the caves.

A major difficulty in working deep is that everything except stone becomes tremendously fragile, through the mere accumulation of time. Ordinary food shell, so abundant in the upper stone-age deposits, tends to disintegrate completely by 100 inches. Larger food and human bones do not persist much longer unless aided by chance—such as the mineralising influence of a drip carrying lime-water from the cave ceiling or local protection by a small piece of rock fallen out of the cave roof.

Clearly, therefore, this deeper work requires much care. It can only be undertaken by the best trained excavators under close supervision from senior staff, and working with fine tools (principally paint brushes and dental picks). Nevertheless, rewarding results are slowly coming to hand.

The most striking result to date has been the deep skull from the "Hell" section, our deepest probe in the Great Cave so far. This was fully reported on in the *Sarawak Museum Journal* by Dr. Don Brothwell of the British Museum (*Sarawak Museum Journal*, IX, 15-16, pp.323-350, with 14 illustrations). His report has since been widely accepted. Normally, such reports immediately evoke criticism or refutation from other physical anthropologists. The real importance of the Niah deep skull lies in the fact that it is typical *Homo sapiens*, and the earliest "modern man" yet proved in South-east Asia. Most expert opinion had previously assumed that our own true ancestors originated much further west and spread eastward only in later times. Dr. Brothwell's report suggests the possibility that sapient man has been in this part of the world far longer than was previously thought—and may possibly even have originated somewhere in far Asia.

The Antiquity of Local Archaeology

Although virtually nothing was known of the early origins or prehistory of man in west Borneo until very recently, this has not been for lack of looking. The trouble has been that so much of the previous search was in the nature of treasure hunting. Treasure hunting seldom yields results in this field of human study. And it invariably has the most damaging effects on subsequent attempts to make a thorough study on a proper scientific basis.

As early as 1878, following the great arguments of evolution and Darwinism, the Royal Society in London and the British Association for the Advancement of Science, stimulated by reports from the co-founder of Darwinism, Alfred Russel Wallace (who spent two years collecting in Sarawak), sent an investigator to explore the Niah and Bau Caves. The investigator was A. H. Everett, a naturalist sponsored by learned societies and a professional collector for the London Zoo, British Museum and other bodies. The results of nine months' cave exploration, reported by Everett as covering thirty-two caves, were published by the Royal Society in 1880. The result was a total blank from the prehistorical point of view. The report advised that it was useless to continue such studies at Niah, Bau or elsewhere in

Sarawak. The effect was somewhat discouraging for the curious-minded who came after Everett.

Since Everett, there has been much speculation and various inadequate searches. Not only did these fail to prove the presence of very early man; there was no evidence of an acceptable kind even of the Neolithic or later stone-age people, let alone the pre-agricultural Mesolithic and the primitive Palaeolithic—all now so firmly documented at Niah.

In 1947, the Sarawak Museum began to make more organised and prolonged efforts to fill in some of the missing bits of knowledge. The first problem was to know where to begin. That is always much the most difficult thing in this sort of investigation in this sort of country. There are virtually no permanent open spaces in Borneo. Sooner or later everything reverts to jungle, every building is overthrown and every grave disturbed by the forces of nature. The obvious place therefore to begin an investigation of this sort is in a cave. The mouths of caves provide the only bits of dry ground in Borneo which never get overgrown by vegetation; and only occasionally are they disturbed by the innumerable burrowing animals and insects of the jungle.

Unfortunately, however, human beings like caves nowadays just as much as their ancestors are supposed to have done in the past. The caves of Borneo provide two tremendous attractions. On the vast ceilings of the caves there are millions of bats and tiny swiftlets. The latter, with their salivary glands, make cup-like nests; these, suitably cleaned, dried and boiled, are the basis of Chinese birds' nest soup—one of the most expensive of foods. On the floor of the caves these same swifts plus bats deposit an endless supply of guano; in some caves this may reach a depth of more than 100 feet. This guano is the only locally available fertiliser in Borneo.

In consequence, most unfortunately for the archaeologist, the floors of practically every cave in the island have been not only disturbed, but to a large extent removed, by man.

In the early cave explorations, which were undertaken by this Museum, more than thirty caves were examined and

excavated in the Bau district. Although a mass of interesting information about early occupants of the caves was obtained, it was invariably rather chaotic because of disturbance. The answers were exciting but unsatisfactory, stimulating but incomplete.

It was not until Sarawak Oilfields Limited had started drilling in the Niah river area that occasion arose to make a really thorough examination of the great cave a mile back from the Niah river in the limestone hills of Gunong Subis. Even a cursory inspection of the ground showed immediate evidence of human remains.

Thus, it is in the last eight years that we have really begun to learn something about Sarawak's ancient past. But there remains a great deal still to learn. At Niah itself, each year we find new surprises, pleasures, mysteries. What we had first thought of as a limestone outcrop with a single great cave and one or two smaller ones, now seems to us much more like a huge Gruyere cheese. Everywhere we search in the limestone, which is honeycombed with caves, grottoes and corridors even in what at first appears extensively impossible and inaccessible places, there are evidences of the intense activity of stone-age men and women; and then of the big flowering of culture and the numerous people using the caves for burial and ritual rather than habitation from around the beginning of the Christian era.

But Niah, though very important, is only one fragment of the total Sarawak story in the context of the Borneo peoples. We seek also to explore other cave sites in an orderly plan, and as well as that there are interesting and important sites out in the open, largely connected with a great junk trade with the Asian mainland to the north within the last 2,000 years. The richest of these sites so far discovered are fortunately quite close to Kuching and easily workable on an inexpensive basis from our headquarters during periods when we are not engaged with the more ambitious Niah type of operation.

The Sarawak River Delta and South-West Sites

The Sarawak Museum started digging in the delta in 1952. Unlike cave sites, these open and usually swampy prehistoric

situations are extremely difficult to pinpoint; and impossible to work in during the bad weather which characterises the *landas* months from October to April. Each summer since 1952 progressive digs have been carried on in the delta country, slowly extending westward along the great sweep of bay between Tanjong Po and Tanjong Datu, the south-west extremity of the island of Borneo. Altogether nearly forty probably significant prehistoric sites have now been located in this south-west sector. Of these, six have so far been excavated to some appreciable extent. These are:

1. Tanjong Kubur—a small headland half a mile west of Santubong; a “proletarian” cemetery of the early T’ang Dynasty (618-?800 A.D.).
2. Tanjong Tegok—an “aristocratic” small cemetery on a small headland half a mile east of Santubong; contemporary with Tanjong Kubur.
3. Bongkissam—flat land beside the river behind Santubong village, evidently a trading centre mainly in the Sung period (about 1,000 A.D.).
4. Sungei Ja’ong—two miles upriver from Bongkissam—a very extensive centre in the T’ang and perhaps early Sung eras.
5. Sungei Buah—another river diversion site across river from Sungei Ja’ong and subsequent to it; including an impressive early iron foundry.
6. Bukit Maras—on the hillside above Bongkissam. This appears to have been inhabited by “Indian” people rather than Chinese types and special finds here include a fine 7th century stone buddha, a beautiful stone tile with a charging elephant, a tiny elephant in glass; gold and fine beads.
7. Telok Serabang—in a tiny bay far out on Tanjong Datu. A small “iron slag” site, which appears to have been over-run and destroyed in some sudden raid (? by pirates) some 800 years ago.

During 1962, road making and other operations in the Saratok district further to the north-east have also revealed some indications of Sarawak River delta type sites of T’ang and Sung date. With the co-operation of the District Officer (Mr. H. A. L. Ferguson) systematic collections of sherds, beads, etc., are being

made. It is to be expected that with further study the south-west trading stations will eventually be linked up on the ground with the closely related material in the latest elements (uppermost levels) of the Niah Caves.

Related to these later-date studies, a systematic chemical analysis of T'ang and Sung beads is now being carried out through the courtesy of Mr. J. McHugh, O.B.E., of Eastern Mining and Metals, Kuala Lumpur. In this way we hope to settle the long disputed question of whence these beads originated. Also to be able to compare the source of similar and different beads from all over South-east Asia and the Pacific area. With this purpose in view, we are building up a reference collection of beads from other parts of the world, by exchanging with our own duplicate material from the Sarawak River and Niah excavations. A report on the first set of results will be published in *Asian Perspectives*, during 1963.

Similar studies of comparatively recent artifacts made from bone are being undertaken on a comparative basis. The first classified analysis of bone tools for this part of the world, undertaken by Lord Medway and the Curator, will be published conjointly in *Asian Perspectives* and the *Sarawak Museum Journal* in the near future. At the same time, the Honorary Curator of Teeth, Dr. Yim Khai Sun, has been carrying out a very extensive statistical study of the human teeth from various Sarawak cave excavations with a view to comparing these with modern teeth, both of peoples in Borneo and elsewhere.

Megalithic Explorations in the Kelabit Uplands

During September and October a Museum unit with five Asians and two Europeans spent six weeks in the Kelabit uplands based on Bario and Pa Lungan twelve miles to the north-east. The principal objectives were a thorough study of the highland mammal fauna (see Chapter V); and the fuller study of some of the really impressive stone monuments (megaliths) which until recently the Kelabits erected to the memory of their ancestors at great *Irau* feasts.

We have published several general reports on the megalithic culture of the upland Kelabits, which is not paralleled anywhere

else in Borneo. The 1962 operations aimed at a more detailed analysis of selected individual megaliths with a view to determining their antiquity more precisely. Special attention was paid to the numerous stone dolmens and slab graves around Pa Lungan, to the huge dolmen and related carved stone on the uninhabited Pa Ra, west of Bario, and at Long Berang ten miles down the now uninhabited valley of the Libun (true headwaters of the mighty Baram River, but here only a few yards wide). This work proved painstaking owing to the difficulty of excavating under the monuments without bringing them crashing down with fatal results both academically and physically! However, valuable material was obtained, including datable series of pottery, metal and other remains. This has not yet been fully studied, and will be the subject of a further report in 1963.

However, the unusual results confirm that the Kelabits have been resident in the far uplands over many centuries, and that the present system of irrigated rice cultivation as practised at Bario has a very old and honourable antiquity—though its origins may not necessarily only be bedded in rice. It is also further clear that the Kelabits have been in longer continuous occupation of one place than any of the other peoples of central or western Borneo. There is also evidence that people were living in the Kelabit country even well back in the stone-age, despite its extreme isolation. But there is no evidence, so far, to associate the great megalithic monuments with the stone-age inhabitants. The monument idea seems to have begun well after the arrival of metal.

The Mainland Trade in General

By 1962 archaeological and related work has built up a picture of a really big-scale traffic with the Asian mainland starting with small-scale barter in the late stone-age and reaching a peak of intensity during the Sung Dynasty in China and the Sawankhalok Dynasty in Siam, around the 12th and 13th centuries A.D. and into the 14th.

We cannot yet tell for certain what it was that these traders of a thousand years ago sought. But early Chinese annals put a high value on rhinoceros horn, hornbill ivory, edible birds' nests,

gums and spices, as well as gold and precious stones, all here available.

Gold has long been worked in the area extending from Kuching south-westward to Sambas and Montrado in west Borneo. Though the production of this area is insignificant in comparison with the present world output, it must, if Borneo gold was known in the days of the great trading expeditions, have been of considerable importance in the ancient world. The fabulous Golden Chersonese may well have included western Borneo.

It is not premature to suggest, however, at this stage, that the cultural and economic importance of west Borneo in general and south-west Sarawak in particular, may well prove to have been much greater than is generally supposed, at least during those periods prior to the advent of the first western influences. The Sarawak prehistoric sites are on such a scale that it is difficult to regard this area as other than a major trading centre for the whole of South-east Asia.

Folk Lore and Prehistory

It is remarkable how often in the last fifteen years we have got our first archaeological clues from local tradition and folk lore. We have learnt to take Iban legend and Kelabit fable seriously. Again and again, the essence of the story or song has proved to have a basis in fact. A great deal of Dayak-type folk lore is a genuine form of prehistory.

During the year, additional energy has been put into setting up the re-capture and recording of this Native lore. Modern education and other pressures are rapidly destroying the old tradition. And even some of the most ancient and venerated stories of the past are becoming obscured with a new moral tone or materialistic tinge. The Assistant Curator, Mr. George Jamuh (a Balau Dayak), and the Research Assistant, Mr. Benedict Sandin (a Saribas Iban), made extensive field tours in the Niah-Bintulu districts of the Fourth Division, the Belaga-Balleh area and the Mukah-Oya districts of the Third Division and elsewhere concentrating on this aspect. Three groups of informants from Kalimantan also spent periods of up to a month in Kuching recording material from the Potok Muruts of the north-west, the

Kenyahs of the Batang Kayan and the Kayan and Ba Maloh peoples of the Kapuas River in the south-east of Kalimantan. The legends and ancestry of these neighbours across the border is of great interest and relevance to us in Sarawak because a large proportion of our inland population originated from the south and east, only migrating north-west over the spinal range of the island in the past three or four centuries. To get a clear picture of our own Sarawak peoples, it is therefore essential to take their overland origins and migrations into account. Some very useful material along these lines has been added to our files during the year. With the help of Mr. W. P. N. L. Ditmas, long time Sarawak Administrative Officer, now retired in Kuching, steady progress was made in translating recorded texts into English for future publication.

II — HISTORY

Islam came late into Borneo, and soon made up for lost time by initiating Mohammedan operations with great zeal early in the 15th century. The control of trade was now largely centred northward in Brunei Bay; and the already powerful pre-Islamic Sultanate of Brunei acquired a new and wide influence in the archipelago.

The first western expedition to encircle the globe reached Brunei town in 1521, after the murder of its leader, Magellan, in Manila. Pigafetta, main chronicler of the voyage, has left a vivid account of a thriving Brunei city on stilts and an immensely rich Sultanate which welcomed its visitors with gifts carried upon caparisoned elephants.

The history of Sarawak as an integral State begins with the first landing in August, 1839, of James Brooke. At that time Sarawak was the southern province of the Brunei Sultanate. The oppression of the Sultan's viceroy, Makota, had goaded into revolt the Malays and Land Dayaks resident in the area then known as Sarawak and the Sultan had sent his uncle, the Rajah Muda Hassim, to pacify the country. The insurgents were led by Datu Patinggi Ali. James Brooke departed after a short stay and returned in 1840, to find the fighting still in progress. At the request of Rajah Muda Hassim, he interceded in the dispute,

brought about a settlement, and was rewarded for his services by being installed on the 24th September, 1841, as Rajah of the territory from Cape Datu to the Samarahan River.

Sarawak was recognised as an independent State by the United States of America in 1850, and Great Britain granted recognition in effect by appointing a British Consul in 1864. In 1861 the territory of Sarawak was enlarged by the Sultan's cession of all the rivers and lands from the Sadong River to Kidurong Point.

The first Rajah pioneered, subdued and pacified; the second, Sir Charles Brooke, in a long reign of fifty years, built with such conspicuous success upon the foundations laid by his uncle that piracy disappeared, head-hunting was greatly reduced and the prosperity of the country increased by leaps and bounds.

Further accretions of territory occurred in 1882 when the frontier was advanced beyond the Baram River; in 1885 when the valley of the Trusan River was ceded; and in 1890 when the Limbang region was annexed at the request of the inhabitants. In 1905 the Lawas River area was purchased from the British North Borneo Company with the consent of the British Government. British protection was accorded to Sarawak in 1888.

The third Rajah, Sir Charles Vyner Brooke, succeeded his father in 1917, and progress continued in all spheres. Head-hunting, as a result of tireless efforts, was reduced to sporadic proportions, revenue increased, enhanced expenditure resulted in improved medical and educational services, and in 1941, the centenary year of Brooke rule, the State was in a sound economic position with a large sum of money in reserve. As a centenary gesture, the Rajah enacted a new constitution, which abrogated his absolute powers and set the feet of his people on the first stage of the road to democratic self-government.

Before the Rajah's enactment could be given effective force, the Japanese invaded and occupied all Borneo. After an initial period of minor promise, everything began to run down to a standstill. By the end of 1944, conditions in Sarawak bordered on stagnation—and in some parts of the country starvation and

chaos were imminent. The first clear evidence of a return to order came with the dropping of British and Australian paratroops of the Services Reconnaissance Department, in the Kelabit uplands early in 1945. The enthusiastically loyal response this force received paved the way to major Allied landings on Labuan island and along the north-west coast of Sarawak as far down as Miri, beginning in June. After the unconditional surrender of Japan in August, Australian forces liberated Kuching itself on the 11th September, 1945.

Since that time, great strides have been made in social services, communications and the general development and prosperity of the country, reaching a crescendo in 1962.

IV

SCIENCE AND THE ARTS

Native Crafts

BORNEO has its own very vital arts and crafts. Inevitably these are threatened by the greatly accelerated and sometimes uncontrolled impact of western civilisation. In particular, the influence of Government education and of mission activities has very generally been to create with extreme rapidity a new set of values the significance of which is often imperfectly understood by the Native peoples most affected. Ten years ago every young Kenyah, Kayan or Kelabit was proud of his leopard teeth ear-rings (if he was fortunate enough to possess them) and his tattoos. Today these fashions are in many areas being replaced by short hair, short trousers and skin clear of any design except vaccination.

It is encouraging, therefore, to be able to report that during 1962 an important new step was taken to prevent the continuing trend towards total loss of these proud aspects of indigenous Sarawak culture. With a reasonable grant from the Sarawak Government, the Sarawak Arts Council was enabled to establish, at long last, a Crafts Shop, which is now situated in the Aurora Hotel, Kuching. Through sales in this shop, which have rapidly risen, and through promoting regular purchases of high quality craft products at source, it is felt that a step has been taken in the right direction. At the same time private enterprise sales of Native art material have been encouraged and there is no intention to form an Arts Council monopoly. Genuine high quality craft work is now sold with the signed warranty of the Curator of the Sarawak Museum. Orders from foreign museums and other outside agencies will also be accepted. In this way, it is hoped not only to preserve what remains of the old tradition but in certain cases to raise the standard back to the old level below which it had sunk in recent years.

Items at present in fairly regular supply at reasonable prices include Iban woven textiles, Kuching Malay gold-thread *sarongs*, splendid black-and-white pattern Punan sleeping mats, carved and painted Land Dayak pipes, blowpipes and *parang* knives, Kenyah wood carvings including bottle-stoppers and shields, handsome beadwork hats, head-bands, necklaces and pencil holders. There is also a range of Melanau black-and-red basket work in several practical forms which have proved most popular. The main difficulty is that of maintaining regular supplies since the best craftsmen often live in the most remote parts of Sarawak. But it is hoped to improve the system and also to reduce prices progressively during 1963.

The Arts Council also has been active in other directions during the year. This is a co-ordinating body, representing the Arts Club, Musical Society, Kuching Amateur Dramatic Society, British Council, Sarawak Library and Sarawak Museum. Under the inspiration of His Excellency the Governor, the Council launched the first ever Sarawak Arts Festival in Kuching during August. This covered everything from a Murut bamboo band brought from the Fifth Division and Kenyah dancers from Long Akah in the Fourth through to school plays, photographic and other exhibitions, a special exhibition of Sarawak's past culled from the Museum Archives and the longest ever torchlight procession to be seen in the capital. Record crowds attended nightly shows in the Museum Gardens and elsewhere, and the affair was claimed a great success and stimulus for the future. It is hoped to launch something of the same kind at another of Sarawak's main towns within the next year or so.

The Arts Council also gave aid to a variety of visiting artists, to a cultural mission from Singapore and to the Kuching Art Club, for whom a painting room and workshop were established behind the Library. Some outstanding paintings were displayed during the year by Mr. Yu Loon Ching of Kuching; some of these were featured as a special supplement and cover in the Singapore Magazine *Pelita* for October, 1962.

During the year the Curator made extensive journeys into the headwaters of the Rejang River, to the Kelabit uplands (see previous chapter), to Bah Kelalan in the extreme headwaters of

the Trusan, to the Magoh, tributary of the Tutoh, and the Madihit rivers, inland from Mt. Mulu, and elsewhere. These journeys were made in the exercise of his duties and with particular reference to collecting those material culture objects likely to vanish under modern pressures. The response of the inland people in letting the Museum have such materials cheaply or at no cost at all in order that they may be permanently preserved in the public interest, has been very gratifying.

In general, it is fair to say that a quickly widening sector of Sarawakians is growing to appreciate some of the less obvious services which a lively museum can supply in a topographically small but culturally rich and variegated country like this. Thus, to a moderate but encouraging extent, the Museum slowly but steadily increases as a focal centre of interest in an encouragement for local skills and ideas. The more far-seeing Sarawakians, in common with Asians very widely, are taking a growing and proper pride in the best of the past and its meaning for the future, as the second half the 20th century gathers its threat of nuclear nonentity.

The Sarawak Museum will be the last to wish to ignore the 20th century, however. The only good museum is a *living* museum dedicated to preserving the past in terms of the future. With this clearly in mind, major new expansion on the exhibition side of the Museum during the year was the complete equipment of a new gallery of technics, minerals and geology, which was opened by the Officer Administering the Government (the Honourable Mr. F. D. Jakeway, C.M.G., O.B.E.), on July 28th. With major assistance from Dr. F. Fitch and the Geological Survey Department plus some splendid exhibits specially prepared by the Shell Company of Sarawak and Sematan Bauxite Company, an entirely new and quite effective gallery has been produced. This can also claim to be the first fully air-conditioned museum gallery in South-east Asia. It has proved a great attraction, specially to young people who appear to have found the exhibits very helpful in understanding school subjects as well as interesting in themselves.

Also during the year, one of the side galleries was reorganised to include ten new cases of archaeological material, mainly tracing out the history of stone-age technology in West Borneo.

One enormous Punan coffin constructed at the Rajah Brooke Memorial Settlement through most of 1961 was, with difficulty, moved thirteen miles into Kuching by road, and erected on the porch of the Museum Old Building, in time for the Arts Festival already mentioned. Another and even more massive burial pole awaits erection in 1963, as it involves some engineering safety problems. This is a Melanau *jerunei* which has for more than 100 years stood on the bank of the Oya River, at Dalat. The river has gradually been eating into the bank and in a matter of a few months longer, the pole would have been carried away. At the request of the local population, the pole has been removed to a permanent place outside the Museum. Even moving it downriver and out to sea involved appreciable logistic problems owing to the great weight of the solid *belian* ironwood tree-trunk from which it is intricately carved in one piece.

In this and other ways, the Museum has been active in preserving or promoting culture either on its own or in association with other units. It has also been able to give significant help during the year to the adjacent countries of Brunei and North Borneo in tackling *ad hoc* problems and helping with the training of personnel. It is very much to be hoped that embryo plans for museums in the other Borneo territories will be further advanced in the near future.

Although plans are now happily afoot for sister institutions, the Sarawak Museum, established by the Second Rajah, Sir Charles Brooke, in 1886, is still at present the only one on the island. Standing in beautiful gardens in Kuching, it has the finest collection of Borneo arts and crafts in the world and is an attraction to visitors as well as to local peoples of all races and ages. There was a conspicuous increase in the use of the Museum both by adults and school children during 1962. Many schools in the Kuching area now run regular Museum tours of instruction. It is hoped to extend some of these study facilities more widely throughout the country in the near future.

A step forward in that direction was the publication of a delightfully written and illustrated booklet, *Sarawak in the Museum*, by Mrs. Betty Scanlon, a long-time active voluntary helper, in both Chinese and English editions (price 80 cents).

Mrs. Scanlon's booklet is related to a simple lettering and numbering system newly introduced throughout the upstairs display galleries, which house our rich arts, crafts and local historical collections.

Downstairs are science subjects, including natural history, technology and geology. Here again during the year appeared the first popular guide to the displays with photographic plates and a numbered key to all exhibits in the big left hand gallery downstairs, *Borneo Birds in the Sarawak Museum* by B. E. Smythies. This booklet was written by Mr. Smythies as a popular companion to his great standard work, *The Birds of Borneo*. A copy of this larger book is available—and widely used—for study on a desk in one corner of this gallery. Behind it is a clever portrait of the author by the young Chinese artist (now in Melbourne) Paul Kuek. In another corner a complete set of the colour plates to the big book are also displayed, on a moving screen, for easy cross-reference.

Visitors and Benefactors

With improved air communications and increased local publications the string of visitors to Sarawak has grown. A good many of these seem to come for, or end up at, the Sarawak Museum. Among those who have made special use of the Museum facilities during the year mention should be made of the Right Honourable Mr. Malcolm Macdonald (since appointed Governor of Kenya); General Subhajaya Suravardhana and staff from Thailand; Professor Robin Winks from Yale, and Professor H. D. Laswell from Harvard, U.S.A.; Dato Sir Rodney and Lady Moore from Kuala Lumpur; Dr. Jack Golson of the Australian National University; Professor Yih-Yuan Li of the Academia Sinica, Taiwan; Mr. L. Burrows of *Life Magazine*, and our old friends, Dr. W. Solheim of the University of Hawaii and Lord Medway from the University of Malaya.

Among the many benefactors of the Museum during the year special mention should be made of the National Museum of the Philippines which donated a Bajau Death-Ship for comparison with Niah Material. The Chicago Natural History Museum helped in many ways and Sir Steven Runciman gave the originals of two prints used in his official history *The White Rajahs*

(Cambridge University Press, 1961). More locally, we are specially indebted to Mr. Ong Kwan Hin and family for the gift of a glorious Chinese double bed and the associated marriage robes, which make a handsome addition to the Chinese gallery upstairs in the Old Building; to Mr. G. Barnes and Mrs. H. Brodie for obtaining exquisite models of various Melanau buildings and ritual objects from Mukah; to Mr. Austin Druce of Sibu for much other help with Melanau materials; and to Mr. Scanlon, District Officer, Sibu, who has been at special pains to get us several additional specimens of the hitherto unknown Earless Monitor Lizard (see next chapter).

The Archives

Most of the important archives from outstations and other departments are by now believed to have been incorporated into the State Archives. The Museum Archivist won the Certificate of the New Zealand Library Association and in December, 1961, returned from advanced studies there. Although the raw material now deposited is of real importance for the future, much work is required in indexing and arranging before full use can be made of it. The question of inadequate space is also likely to arise soon.

Although there is much in every way to catch up with, the archivist has made a start with indexing some of the more important old material held. In this he has been valuably assisted by the retired Government Printer, Mr. John Chater, who has already achieved the formidable task of indexing every case in the Simanggang Court Books since 1887. The most interesting new acquisition for the archives during the year was a set of letters presented through Mr. George South, mostly from the Second Rajah, addressed to Mr. J. Lewis, a long-time Sarawak Government officer. Among other things, these letters prove that Lewis was appointed first Curator in 1888. It had always previously been supposed and published that Dr. C. D. Haviland had received the first appointment in 1893.

Other Studies

The long-term study of Sarawak Malay communities, begun in 1949, was the subject of a 250,000-word preliminary report

to the Secretary of State in 1961. It has since been further revised and finalised and is now in the hands of the University Press with a view to publication during 1963.

This will then complete the series of socio-economic studies originally planned by Dr. Edmund Leach in 1947. Already published are volumes on the Land Dayaks by Professor W. R. Geddes, the Sea Dayaks of the Balleh by Dr. D. Freeman, the Melanaus of the Rejang Delta by Dr. H. S. Morris, and the Sarawak Chinese by Dr. T'ien. Studies of the Kelabits in the far interior begun in 1945 still continue.

For more general purposes, at the end of the year a new edition was in preparation of *The Peoples of Sarawak*, a popular booklet issued by the Museum and covering all races. More than 4,500 copies have already been distributed and the second edition is nearly exhausted. It is hoped to produce a much revised and up-dated third edition early in 1963 (price \$2.00, 150 pages with 14 plates).

Sarawak Arts Council

The Sarawak Arts Council received its first grant-in-aid from Government in January, 1962, to be used for the underwriting of visits of artists from overseas, for the establishment of a centre in Kuching for the collection, promotion and sales of Sarawak arts and crafts and an Arts workroom, and for the running of a Sarawak Festival which was held from 28th July to 11th August, 1962.

The Arts and Crafts Shop in the Aurora Hotel Building was opened on 10th May, 1962, and the results of the first six months of operation have been most encouraging. The Arts Workroom is now in use and is proving to be a great boon to artists and would-be artists in Kuching.

During 1962 the Council sponsored visits by the Goh Soon Tioe String Orchestra (who also combined in the performance of two works with the Sarawak Music Society Orchestra), the Singapore Cultural Mission, Miss Beryl Kimber, the concert violinist, Miss Irene Kohler, the concert pianist, Miss Mildred Miller, mezzo-soprano from the Metropolitan Opera House, New

York, and Mr. Bela Siki, the concert pianist. The Council also sponsored a very fine Exhibition of paintings by the Hong Kong artist, Mr. Robert Lau.

The public responded well to all these events and it is hoped to arrange further concerts, recitals and art exhibitions in 1963.

The Sarawak Festival, the idea of His Excellency the Governor, Sir Alexander Waddell, which involved the Council and all its members in a good deal of work and planning (and enjoyment) was judged to be "highly successful". The excellent public response seems to show that Festivals of this kind—calling upon all communities and interests—can do a lot of good. Almost all communities took part in the Festival and the standard of all contributions was very high. Special mention must be made of the performances by the Lawas Pipe Band, the Foochow Association and Batu Lintang Training College, and of the performance of "The Merchant of Venice" by St. Thomas's and St. Mary's Schools.

The Council took steps early in the year to raise funds for a grand piano for concert use, and a Broadwood was acquired in June. This has made a great difference to the quality and success of concerts and recitals.

The Council for 1962 consisted of the following:—

Mr. H. R. Crooke (Chairman).

Mr. S. E. Corby (Secretary).

Mr. Lucien de Silva (Treasurer).

Mr. T. H. Harrisson, D.S.O., O.B.E.

Mr. G. Jamuh, M.B.E.

Mr. Gilbert Kueh.

Mrs. T. Rozalla.

Mr. Yu Loon Ching.

Mr. Chua Siang Cheng.

Mr. Salleh Askor.

V

FLORA AND FAUNA

THIS chapter aims to give some general idea of the natural life of the country, as well as indicating special points of interest in 1962. Particular studies were made during the year on conservation programmes and the protection of large animals, the distribution of small mammals, research on fisheries and marine turtles, each of which will be briefly indicated later in this chapter. First, a general picture for Sarawak as a whole.

Apart from the coastal plains of swamp forest and the sub-coastal belt, Sarawak is dominated by mountains and hills, with special forms of high-level plant and animal life. Between dusk and dawn, the jungle at all levels is alive with the noise of thousands of insects. There are more than five hundred kinds of birds, more than two hundred species of mammals. Everywhere there is vigorous life, going on all the year round. There is no rest for fauna or flora; plants grow all the time, animals do not hibernate. Activity has no visible end, and the jungle is as alive by night as it is by day—most insects, frogs, many snakes, the wild cats and civets, flying squirrels and tarsiers and among birds the owls, nightjars and frogmouths all being nocturnal.

Flora

High temperatures with little variation, coupled with an annual rainfall of between 100 and 180 inches, make for all the year round foliage and flowers. The old leaves fall after the new ones have grown. This is an evergreen island. The greenness is made up of an enormous number of different kind of plants, with many different characteristics and habits of growth. Epiphytic life is apparent wherever there are trees: almost every tree supports other forms of plants, mostly ferns and orchids, using the tree as host; but “living on” not “living off” the tree like true parasites.

There are several hundred species of orchids, mostly living on trees. Many have beautiful flowers and some can be seen in gardens throughout the country. *Phalaenopsis amabilis* is a tree-dweller with leaves six inches long and an inflorescence of more than three feet with white and yellow flowers, a glorious plant. Others have roots in the ground with the tip of the plant growing indefinitely, and aerial roots clinging to forest trees to support their climb to the roof of the forest.

There has recently been a large increase in the commercial collecting and export of orchids, which is giving some cause for concern. It will probably be necessary to take protective action under existing law (administered through the Museum) in the near future.

In the dry season from April to September some jungle trees bear edible fruit. One looks like the English chestnut, with a centre tasting not unlike an avocado pear; another is the luscious but heavily-scented *durian*, weighing two or three pounds and much loved by all local peoples.

Beneath the great forest trees there are thousands of other plants: beautifully coloured small foliage plants, terrestrial and epiphytic ferns of all shapes and sizes, mosses, gingers and many others. In the clearings and along river banks there are flowering shrubs, with pink and yellow their dominating colours.

Another unusual plant is the pitcher plant (*Nepenthes*). These are climbers, usually in open country. They turn the tables on insects, especially ants, by snaring, drowning and digesting them. This is one of the few circumstances in which a plant eats an insect, and so gets its own back. Many species of *Nepenthes* exist among the mountainous and lowland groups. Some have small pitchers of one inch and some large, of sixteen inches. The pitcher consists of body, rim and lid. Within the body a liquid is produced that digests the insects. The inner surface of the pitcher is slippery, and once an insect is attracted by the beautiful colours or the sugary secretions round the inside of the rim, it has little chance of escape.

A feature of Sarawak is the specialised flora of the moss forests with their dwarf vegetation. These occur in various parts

of the country on mountain ranges above 3,000 feet. Layer upon layer of moss and dripping water abound, and the whole is in perpetual dampness.

Fauna

Perhaps the most dramatic place and the easiest way to see into the teeming life of the island is to step out of the jungle and go into one of the great caves which honeycomb for miles wherever there is an outcrop of limestone, as at Mount Mulu on the Tutoh; around Long Akah on the Baram; inland from Bintulu; at Gunong Subis, Niah; and in many small hills behind Bau, above Kuching. Niah, already referred to in Chapter I as the classic Borneo stone-age site, is the largest, loveliest and fullest of life. Its principal inhabitants are roughly 1,000,000 bats and 4,000,000 swiftlets. And when the bats go out and the swiftlets come home at dusk it is difficult even to control your mind to millions. It is hard to imagine there are so many of any one animal in the whole world, let alone in one cave. The bats are of several kinds, some the size of a crow, others of a sparrow. Into the night they go to forage the air of the jungle. The swiftlets (of the genus *Collocalia*) are of three kinds, have tiny bodies and scimitar wings. Their nests they make of saliva excreted from special glands. These are the birds' nests of soup fame, prime delicacy of the Chinese gourmet. They are exported in quantity, the best quality (pure saliva) fetching as much as £10 a pound.

These swiftlets, who take as their food tiny beetles in and over the jungle canopy, work for man in two ways. One end salivates the nests, the other gives droppings of beetle elytra, providing guano, a very useful local fertiliser; and they are but two of several thousand vertebrate (spined) living species in Sarawak—and of as yet uncounted tens of thousands of insects, shells and so on.

Some of the more interesting other forms include:

(i) *Apes and Monkeys*

The most famous of all Borneo animals is the *Orang-utan* or *Maias*, that closest cousin of *Homo sapiens*. Once widespread over South-east Asia, it now survives only in Sumatra (a few) and

restricted areas of Borneo. Owing to the high value put upon them in zoos—where they make the most amiable of living exhibits—*Orangs* have been decimated in the past fifty years. The situation is now grave. The *Orang* is threatened with extinction, unless drastic measures can be carried out for immediate conservation. Such conservation also depends, in part, on active collaboration between the Indonesian and British Governments involved.

Particular attention was devoted to the problem of the *Orang-utan* during 1962. The Sarawak Government made a considerable grant to assist in a pilot scheme for experimenting with re-training baby *Orang-utans* to return to the wild in the Bako National Park. The World Wild Life Fund made a matching contribution and has promised another for 1963. The principal aim of this experiment is to break the deadlock that at present exists between confiscating baby *Orangs* which are being illegally smuggled for sale to zoos but are too small and helpless to be returned to the wild on their own and, once in captivity, become so dependent on humans that they will never be able to take to the wilds again. Great difficulties were encountered during the year, but slow progress is being made. It is believed that by the end of 1963 methods will have been proved for establishing groups of *Orang-utans* in areas which can be properly controlled.

At present, conservation, though enforced by law in all the few Sarawak areas where *Orangs* remain, is ineffective because of political borders, remote communications, staff control difficulties and a very high price offered by irresponsible zoos which still seek baby *Orangs*. The project is under the charge of Mrs. Barbara Harrisson, whose book "*Orang-utan*" was also published during the year and drew world wide attention to the serious and complicated problems involved in conservation of this kind.

Further field work by Museum parties shows that there are probably less than 500 *Orang-utans* now alive wild in Sarawak. The figure for the adjacent territories of North Borneo and Kalimantan may be higher, but there is no reliable information and little cause for optimism. There are no *Orang-utans* left in the State of Brunei.

Whereas the *Orang* is now in perilous plight, Borneo's special monkey is actually prospering in Sarawak under legal protection.

This great and peculiar animal, the Proboscis Monkey (*Nasalis larvatus*), usually known by its Malay name of *Belanda* (Dutchman), has increased and extended its range in recent years. Fortune has strangely favoured the Proboscis, for although it would make an outstanding zoo exhibit, it is an exceedingly delicate pet and seldom lives in captivity. Further, it lives in vast areas of mangrove swamp, never interfering with human interests. The Proboscis is also normally rather shy, whereas the *Orang* is only too vulnerably tame.

The several other species of monkey and Borneo's other ape (the Gibbon or *Wa-Wa*) remain numerous in the jungle, but are increasingly subject to shooting for protein, by the very many Sarawakians who now have shotguns—so that a definite decrease is to be noted in the more populated areas recently.

(ii) *Game Animals*

Sarawak is rich in ground mammals. The rhinoceros has long been at extinction level, largely owing to persistent (now illegal) hunting by the Dayaks, who sold the horns to the Chinese. Wild cattle are quite common in the northern part of the country; wild elephants are confined to North Borneo. Deer are very numerous; the sambhur deer or *rusa*, almost as big as a cow, is in some places a nuisance to rice farmers.

There is only one dangerous animal, the honey bear or *bruang*. The clouded leopard can be large and magnificent, but people of the island regard it as effeminate. The honey bear, if upset or with a family of young, will attack the unwary traveller. There are many stories of people clawed and even killed by angry honey bears. The baby bear is a great favourite as a pet, but as it nears maturity it becomes dangerous.

Pigs are still numerous over much of the country. But the massive annual migrations described by Banks and others earlier in the century are by way of becoming unusual events today. With over 60,000 licensed shotguns in Sarawak, such game is under heavy pressure all the time. It may well be that, unless measures of control are exercised, over-hunting will before long threaten the levels of essential minimum protein supply for large groups of inland peoples who depend on game, in the absence or scarcity of fish and shell-food upriver.

(iii) *Smaller Land Mammals*

Although there are over 200 species of land mammal in Borneo and nearly all of them recorded at least once in Sarawak, very little has hitherto been known about the majority of them. With the completion of *The Birds of Borneo* project, the Museum collectors and field staff have increasingly moved over from the study of birds to smaller mammals during 1962. Two Museum collectors have spent periods in the University of Malaya for additional training in zoological techniques under the supervision of Lord Medway. A systematic programme for observing, and where necessary collecting, small mammals is now under way and will be stepped up further during 1963, with the eventual aim of producing a companion volume to the bird book *The Mammals of Borneo*.

Among mammal observations of particular interest during the year we must rate first the establishment of a small colony of live Tarsiers in a large aviary in Kuching. As at the 31st December, 1962, one female was pregnant. The baby is expected in February and if successful this will prove to be the first live birth in captivity anywhere in the world. As with the *Orang-utan*, the intention here is to learn how to train up semi-wild populations for eventual liberation in fully protected jungle areas such as the Bako National Park, where the animals can be seen by visitors without being molested by hunters. The Tarsier is one of the most attractive animals in the world and closely related to the Bush Baby of Africa, which makes a splendid pet. But until now very little has been known about the Tarsier's habits and only a handful have ever been successfully kept in captivity. Contrary to previous information, local experience has shown that their favourite food is *chichak* (geckos) and other lizards, upon which they thrive. Indeed, a major Museum problem of recent months has been to collect enough *chichak* in Kuching to satisfy the daily intake of our pet Tarsiers.

During the year also, two new bats have been added to the Borneo list. A very rare ground squirrel (*Glyphotes*), only known from a single previous specimen collected by Hose on Mount Dulit, was re-discovered in the Kelabit country. Similarly, a beautiful small flying squirrel (*Pteromyscus*) only previously

known from three specimens, was re-discovered in the same area. The very peculiar mole-like Small Moon-Rat (*Hilomys*), only previously known from Mount Kinabalu, was re-discovered on the Tutoh river. And several specimens of beautiful mountain civet (*Hemigale hosei*), originally recorded from Mount Dulit, have been successfully kept alive after trapping them in snare lines in the interior. In pursuing this mammal research, active assistance has been received from the Chicago Natural History Museum, the Department of Zoology at the University of Yale and the British Museum, London.

(iv) *Aquatic Mammals*

Although little enough is yet known of aquatic animals living in Sarawak coastal waters of the South China Sea, progress has been made towards increasing our knowledge of what is turning out to be an interesting section of the Bornean fauna.

The *dugong*, a shy and silent beast—superficially resembling but in no way related to a mermaid—now appears to be confined to a small area on Tanjong Datu, where the population of Malay fishermen and Chinese hunters is very small. The whole local population appears to number no more than a dozen.

The picture for cetaceans is brighter—much brighter than has hitherto been suspected. Five years' careful observation has given good records of at least sixteen different forms present in these waters, most of them previously unsuspected. These include not only the well-known common dolphin, the ten-foot Bornean white dolphin, the small lead-grey Irawadi dolphin which comes well up the rivers, and the little finless black porpoises of the estuaries, which were fairly well known before; but also the Plumbeous dolphin, a big one with a remarkable long beak; the very large Risso's; the Bottle Nosed (which turns out to be common): and a small black one, living in the muddy waters of estuary mouths, which has not yet been positively identified and may be new to science.

(v) *Birds*

The publication both of a standard text book (*The Birds of Borneo*) and a popular guide to Borneo birds—as already noted—has done much to increase local interest in and awareness of the

rich and varied life in the midst of which we in Sarawak live. A very simple booklet, prepared by the Curator, and called "Twenty-one Common Birds of Borneo Town and Village" was also published in conjunction with the Sabah Society of North Borneo in November, 1962. This is now on sale in the Museum, price 40 cents.

There is to be found in Borneo one of the richest resident bird populations in the world. There are several sorts of hornbill, notorious for their domesticity: the male walls the female into the nest, feeds her there and only liberates her when the young are ready to fly. Among a number of fine pheasants, the Argus is as handsome as a peacock. Its dancing grounds are stamped out of the mud, so that several males can compete to the delight, or at least to the concern, of the females.

Sarawak has parrots, broadbills, ten kinds of pigeon, egrets, nearly twenty kinds of woodpecker, exquisite sunbirds and flower-peckers, the lovely-voiced Yellow-crowned Bulbul, and so many other birds that it is doubtful if one man could ever learn to recognise them all on sight.

One new species of bird was added to the Sarawak list during the year, a Chinese Starling which arrived exhausted on Satang island on the 5th October. Among other unusual records for the year was a Common Tern, usually a purely marine species, blown inland to Bario in the Kelabit uplands on the 13th October; and a rare wader, the Ruff, kept under observation on Kuching race-course during several weeks in the Spring by Dr. D. A. Baird.

(vi) *Marine Turtles*

Sarawak's reptilian speciality is the big Green or Edible Turtle. Although this occurs elsewhere, only here do so many come up to lay, on three small beaches on islands off the coast (the Turtle Islands). Live turtles are protected. Only the eggs are collected, and a proportion are left to hatch out. Advances continued in experimental methods of rearing the baby turtles until they grow tough enough to evade most of their fish enemies.

In these experiments, the first of their kind anywhere, some 4,000 turtles were tagged with durable monometal numbered tags

from 1953 to 1955. There were no long-term repeats until 1956. Then, on July 6th, one marked on July 30th, 1953, at last reappeared. By the end of July, fourteen repeats had been recorded: all turtles tagged in July and early August, 1953. One lady, number B1544, has now been checked in by the staff of turtle watchers on Talang Talang Besar as laying over 1,000 eggs on eleven registered visits, five in 1953 and six in 1956.

In 1957 a series of turtles tagged in 1953 and 1954 returned to the islands once more. This same trend has continued since. During 1959 for the first time Sarawak tagged turtles were reported from outside the country—one in January from the east coast of North Borneo, and others doubtfully from the Natuna Islands and the south-west coast of Kalimantan. A single tag from Talang Talang Kechil was also found washed up on a beach at Vancouver Island, Canada; this mysterious event is still unexplained. No individual turtles have yet come up in more than one year since they were originally tagged. The evidence is now therefore strong that turtles spend periods of several years away from the islands without laying here in the interval. No turtle bearing a Sarawak Museum tag has been recovered actually *laying* in adjacent territories, such as the Natuna Islands and the Sulu Archipelago. Where these huge beasts spend their long holidays from reproduction remains a mystery. Nor is anything yet known of what happens to the baby turtles after they dash frantically down the beach into the sea and swim with frenzied energy away and out of sight.

The conservation programme for Green Turtles on the three Turtle Islands was stepped up in 1962 with the full and far-sighted support of the Turtles Board. Tens of thousands of eggs were re-planted and re-hatched and the young reared in tanks before release into the South China Sea. Nevertheless, the turtle situation is such as to give cause for alarm. Sarawak probably has about the healthiest turtle population in the world at present. But this population shows signs of continuing to decrease, largely owing to circumstances outside our local control. Unfortunately, as mentioned above, the adult turtles spend years away from Sarawak waters, and are then very vulnerable to man—and especially the sort of man who wants to make turtle soup.

Analysis of this downward trend during the years, for which there are reliable figures of total egg yield on our three islands, clearly illustrates what we are up against.

<i>Period</i>	<i>Average number of eggs per year for period</i>
1929-36	2,184,095
1948-54	1,581,132
1955-61	1,038,129

A remarkable event of the turtle year 1962 was the birth of a pure albino baby on Talang Talang Besar. This was still doing well at the end of the year, after five months of hand-rearing. It is the first ever known in these waters and regarded as a very good omen by the coastal Malays. When put on live exhibit in the Museum for a fortnight it drew large crowds, especially of school children.

(vii) *Snakes and Lizards*

Sarawak has the most dangerous and deadly snake in the world, the hamadryad or king cobra. It can grow over fifteen feet in length, is quite common, and one of the very few reptiles in the world which will sometimes attack human beings without provocation.

Lizards, of which there are nearly a hundred kinds, are more conspicuous, because of the attraction human dwellings have for some varieties such as the gecko or *chichak*. An observant person may sometimes see flying lizards, which actually only glide on membranes extended between the front and back limbs.

Sarawak also has the rarest and least known lizard in the world, the Earless Monitor (*Lanthanotus borneensis*), which is a sort of "missing link" between the lizards and snakes, and of highest interest, therefore, to zoologists. Hitherto known from only a handful of specimens, all taken in south-west Sarawak, for the first time one was found alive by Ibans clearing a pepper garden close to the Niah Caves in February, 1961. Once the first live specimen had been discovered, we began to build up a know-how on where and how it lives. During 1962, no less than eight live Earless Monitors were brought in, either from the Niah river or

a small area of the lower Rejang. These thrive on a diet exclusively of turtle eggs so long as kept in Kuching and five were still doing well here at the end of the year. But attempts to send them to zoos, where they would be of great interest, have proved unsuccessful on no less than five occasions. All have died either in transit or soon after arrival. Though they cannot possibly live on turtle eggs in their natural habitat, no alternative diet has yet been found.

Another lizard was described as new to science during the year: *Cyrtodactylus cavernicolus*, a nearly blind gecko which is only found in the Niah Caves so far as is at present known (see *Sarawak Museum Journal*, X 17-18). This new form is added by Dr. Robert F. Inger and Dr. Wayne King of Chicago, who also headed a separate scientific expedition to the headwaters of the Balleh river, still in the field at the end of the year.

(viii) *Fish*

Sarawak has an immense diversity of good sea fish, more than 150 of which are known and named as of economic interest by Malay and Melanau fishermen of the coast. Barracuda, bonito, king-fish and horse mackerel are the only proven sporting fish.

For years, local fish collections jointly made by the Museum and by the Department of Agriculture, have accumulated in the specially built "spirit house"—a safety precaution against fire risk—behind the Library. Several unsuccessful attempts have been made to get a specialist to put these collections in good order, identify and extend them to give a comprehensive reference series (especially of the economic species). Happily, in 1961, through the Colombo Plan, the leading Japanese ichthyologist, Professor Tomiyama, was given leave of absence as private adviser to His Highness the Emperor of Japan and as director of the Marine Research Station, University of Tokyo. The professor spent fifteen months, both in working out our existing fish collections and in supplementing them by further collecting expeditions along the south-west section of Sarawak.

By the time he left in September, 1962, Dr. Tomiyama had identified and labelled some 500 species of marine fish now in the Museum collections as an invaluable reference source. About

a dozen more have not yet been identified and are expected to be described shortly as new to science.

Study of riverine fishes continued, both with the help of Dr. Tomiyama and in conjunction with the Chicago expedition noted above. The Museum's general collector was attached to the Chicago expedition for three months to assist in this and related work.

(ix) *Spineless Animals (Invertebrates)*

Numerous other illustrations of the country's wealth of animal and plant life can be produced: molluscs (shells), crustaceans (crabs, etc.), anthropods (spiders, etc.), and nematodes (worms). In the invertebrate section of spineless or boneless animals the variety of forms is immense. There are also many beautiful butterflies, the loveliest of which is the Rajah Brooke's Bird-wing (*Ornithoptera*) which decorated the country's one cent stamp in the King George VI issue.

The Great Cave at Niah is, among its many other attributes, the only locality in the world recorded in scientific literature as the home of a strange earwig-like parasite called *Arixenia esau*; as a result, very little is known of this insect. Following up a scientific paper published in the Royal Entomological Society's journal on the anatomy of this earwig and its related species, *Arixenia jacobsoni* (known from Java and Malaya), observations were made on the habits and living conditions of *Arixenia* in the cave. These have resolved several mysteries, and have shown, for instance, that the insect is genuinely parasitic—which had before only been conjectured—feeding on the surfaces of the hairless skin of the extraordinary naked bat.

Regular observations have been kept on this grotesque *Arixenia* colony at Niah. It may well be desirable, at some future date, to protect it by declaring the world's first Earwig Reserve.

VI

ADMINISTRATION

General

SARAWAK is divided for administrative purposes into five Divisions, each in charge of a Resident.

These Divisions are—

- the First Division, with headquarters at Kuching;
- the Second Division, with headquarters at Simanggang;
- the Third Division, with headquarters at Sibü;
- the Fourth Division, with headquarters at Miri;
- the Fifth Division, with headquarters at Limbang.

Each Division is subdivided into a number of Districts, administered by District Officers, and most of the Districts into smaller areas or sub-districts each in charge of a member of the Sarawak Administrative Officers' Service. As far as is practicable, Government attempts to free Residents and District Officers from as much office work as is possible in order that they may tour their areas and maintain the close contact with the people which has always been the keynote of administration.

Constitution

In 1941, to commemorate the centenary of Brooke rule, His Highness the Rajah granted a Constitution, and in 1946, when Sarawak became a Crown Colony, the Supreme Council and the Council Negri retained the authority granted to them in that Constitution. This gave legislative and financial jurisdiction to the Council Negri, a body of twenty-five members of whom fourteen were official members appointed from the Sarawak Civil Service and eleven unofficial members, representative of the several people of the country and their interests. In addition, there were certain standing members—Natives of Sarawak who had been members of the Council Negri immediately before the enactment of the new Constitution Ordinance. The Council had

the power to make laws for the peace, order and good Government of the country, and no public money could be expended or any charge made upon the revenues of the country without the Council's consent. The Constitution also provided for a Supreme Council of not less than five members, of whom a majority should be members of the Sarawak Civil Service and of the Council Negri.

All powers conferred upon the Rajah or the Rajah-in-Council by any written law enacted before the date of operation of the Cession of Sarawak to His Majesty were vested in the Governor in Council. In the exercise of his powers and duties the Governor consulted with the Supreme Council, except in making appointments to the Supreme Council and in cases:—

- (a) of such nature that, in the Governor's judgment, Her Majesty would sustain material prejudice by consulting the Supreme Council thereon;
- (b) of matters in his judgment too unimportant to require their advice; or
- (c) of matters in his judgment too urgent to admit of their advice being given by the time action might be necessary.

In August, 1956, an Order-in-Council was made and Letters Patent and Royal Instructions were promulgated which between them contained a new Constitution for Sarawak. It provided for a new legislative body consisting of forty-five members of whom twenty-four are elected unofficials, fourteen are ex-officio, four are nominated to represent interests which the Governor considers inadequately represented, and the remaining three are standing members two of whose seats are vacant and will not be filled. The Supreme or Executive Council now consists of three ex-officio members, namely the Chief Secretary, the Financial Secretary and the Attorney-General, two nominated members and five members who are elected, nominated or standing members of the Legislative Council. Councils representing the five Administrative Divisions of Sarawak, or Divisional Advisory Councils, as they are designated, elect twenty-one of the twenty-four unofficial members, and the remaining three members are elected by the Kuching Municipal Council, the Sibu Urban District Council and the Miri District Council. To qualify for election as an unofficial member a person must be, amongst other things, over twenty-one

years of age and a British subject or a British protected person, and must, with certain exceptions, have resided for at least seven out of the last ten years in Sarawak. This Constitution came into force on 1st April, 1957, the day appointed by His Excellency the Governor for this purpose.

During 1962 certain proposals were accepted by Council Negri as a basis for further electoral and constitutional advance. These are that at the next general election, which will take place about the middle of 1963, the franchise is to be extended to all persons over the age of twenty-one subject to qualifications by birth or residence and the usual disqualifications. The tier system of election through District and Divisional Advisory Councils is to remain although the direct representation on Council Negri of the Kuching Municipal, Sibuan Urban District and Miri District Councils is to be abolished. The President of Council Negri, currently the Chief Secretary, will be replaced by a Speaker. The membership of the new Council Negri when reconstituted was planned to consist of not more than fifteen nominated members of whom not less than four would be unofficial, three ex-officio members (the Chief Secretary, Attorney-General and Financial Secretary) and twenty-four elected members. It was also anticipated that, at an appropriate time, some unofficial members of Supreme Council would be associated with the formation and presentation of Government policy on certain subjects. Subsequently, however, further proposals were accepted by Council Negri early in 1963 which will have the effect of introducing a Ministerial system of Government and reducing the number of nominated members of Council Negri to a maximum of three, with a corresponding increase in the number of elected members to a total of thirty-six.

Local Government

At the moment, Local Government bodies perform a dual role. In addition to their orthodox local authority function in providing a system of decentralised administration involving local participation, Local Government bodies constitute electoral colleges within the present 'tier' system of Central Government representation whereby election to the legislature (Council Negri) is achieved by way of Divisional and District Council membership.

However, this system was designed as essentially an interim expedient during the transitional stages towards self-government and Constitutional change is likely to bring direct election to the legislature.

Prior to 1921, Central Government was entirely responsible for the provision of community services usually associated with the Local Government system. In that year, the Kuching Sanitary Board, composed mainly of Government officials, was established as an advisory body with responsibilities for the general administration of elementary municipal services in the town. In 1934, this body became the Kuching Municipal Board, with nominated unofficial representation, and similar bodies were established in the urban centres of Sibu, Miri, Binatang and Sarikei. Whilst these bodies relied, to some extent, upon the rating principle as a system of community taxation for Local Government purposes, they remained quasi-governmental in form and their estimates provision continued to be made within those of Central Government.

In 1947, with the establishment of Civil Government following the Japanese occupation, these Municipal Boards were re-established and most adopted the standing committee system to facilitate the conduct of their affairs. By 1953, the Kuching Municipal Board became the Kuching Municipal Council, with a wide measure of autonomy and substantial responsibility for the conduct of municipal affairs, but unofficial membership continued to be mainly on a communal basis, Councillors being nominated by community associations. In 1957, the Kuching Municipal Council, an autonomous and fully-representative body based on adult franchise, was established under the provisions of the Kuching Municipal Ordinance.

Whilst these arrangements were satisfactory in the Kuching context, similar development of the Municipal Boards in other urban centres was not appropriate because of the need to integrate such bodies with their supporting rural communities. In 1940, in order to meet this problem, the Native Administration Order was published as an enabling ordinance to permit the gradual introduction of the people themselves—particularly those in rural areas—into the local administration of their own affairs. This

Order contemplated the setting up of village committees to replace individual chiefs, but the initial experiment along these lines made little progress, largely due to the difficulty of providing adequate supervision and the subsequent outbreak of hostilities.

In 1947, the establishment of five local treasuries at Bau, Simanggang, Betong, Sibuluan and Bintulu introduced a scheme for the development of Local Government through local authorities with their own treasuries, and the Local Authority Ordinance formed the basis of defining the powers and responsibilities of these bodies. The basis of the local treasuries was a Government grant of \$5 a taxpayer and retention by local authority bodies of customary taxes, against which they assumed responsibility for primary education and payment of chiefs' salaries. Inadequate finance, a limited field of interest and a dearth of qualified staff resulted in disappointing early progress; in addition, the authorities continued to suffer from the disadvantage of remaining primarily racial in character.

1948 heralded an important stage in the Local Government process by the establishment of the Limbang local authority, an experiment in a racially-mixed authority which proved an immediate success. The growth of local authority bodies continued during the period 1948-52, but although a number of mixed local authorities were established during this period, the emphasis tended to be upon purely Native bodies. The basis of Central Government financial assistance was changed during this period to a system of a capitation grant and refund of customary taxes and other Central Government revenue to supplement local licence fees. The problem of Chinese participation continued to hinge upon a satisfactory substitute for Native customary taxes when considering the financial contribution from this community. The concept of rating as a source of revenue, already established in the urban centres as an inheritance from the days of Municipal Boards, was slow to take root in rural areas.

By 1957, the whole of Sarawak, with the exception of a small portion of the rural area of Miri Sub-District, was covered by a proliferation of Local Government bodies of varying composition. However, the elective principle was not yet very widely applied and ex-officio representation on local authorities was

still common. With the growing experience of Council representatives and the increasing importance and extent of their responsibilities, it became clear that the early formative stage was over and that Local Government required placing on a more clearly-defined basis. In 1959, a general election of representatives to District Councils, as the bodies were now designated, was held for the first time throughout Sarawak. At the same time, Council Negri Sessional Paper 1/59 defined the ultimate responsibility of local authorities in the field of primary education and introduced a system of matching rate grants as a means of encouraging the extension of the rating principle in conjunction with generous Central Government capital grant and loan assistance.

Progress has since been uniformly satisfactory and this has been accompanied by the steady decrease in ex-officio representation, a process which is now complete. The enhanced status of District Councils has been accompanied by a strengthening of their staffing position, resulting in a greatly diminished need to second Central Government officers to these bodies, although the technical advice of such officers is always available to Councils on request. Elected Councillors and their administrative staff have taken readily to United Kingdom practice and principles in the field of Local Government; as well as forming an integral component of the current programme of rural development—being responsible for, in addition to the provision of orthodox Local Government services, the fields of primary education and preventative medicine—Councils constitute an important vehicle in the spreading of the democratic process.

The remarkable results achieved within such a comparatively short period can be attributed, in part, to the responsible manner in which elected Councillors have responded to the very considerable degree of independence of action given to District Councils. Central Government control is confined to the field of major policy principles, and the approval of annual revenue and expenditure estimates, by-laws and senior staff appointments. The financial and administrative stability of these bodies gives cause for future optimism, although much work remains to be done on such fundamental problems as independent valuation for

rateable purposes, an equilisation formula related to the wide variation in needs and resources between different Councils and the training of senior technical staff.

ORGANISATION AND METHODS

The Organisation and Methods Branch entered its sixth year of operation since the appointment of an Organisation and Methods Adviser in February, 1957. One Investigation Officer appointed in 1958 took a training course in Australia in 1959, and a second Investigation Officer appointed in September, 1960, will take a similar course next year.

Investigations fall into two categories: full-scale reviews of departments, and limited investigations involving branches or sections of departments or the study of specific functions.

Departmental reviews have been completed in the Government Printing Office, Land Transport Office and the Majlis Islam. Similar reviews are in progress in the Trade and Customs, Posts and Telegraphs, Land and Survey, Essential Commodities and Medical departments.

Organisation reports, with emphasis on structure rather than detailed procedures, have been issued on the Treasury, Borneo Literature Bureau, Public Works Department (non-technical services) and the Finance Branch.

In other directions, investigations have resulted in the establishment of a simplified registry system which is gradually being extended to all departments and stations, in the reorganisation of the Public Works Department unallocated stores and of several departmental allocated stores procedures and in simplified procedures for Boards of Survey, telephone accounting and a number of other departmental functions. Proposals have also been accepted for the establishment of proper Typing and Machine Operator grades. A total of fifty-six investigations were completed since the Branch's inception up to December, 1962, for thirty-eight of which formal reports have been issued. In addition, the standard registry system has been introduced into twenty-three offices.

Forms control was introduced in 1958, since when 200 forms have been made obsolete or rejected, 329 existing forms have

been modified and 470 new forms have been subject to modification before printing was authorised. The effect of forms control, apart from simplification, has been to keep down the rate of increase of new forms.

Machines control also came into operation in 1958. The effect has been to ensure that the right type of machine is used in the right place, and that expenditure is kept to the minimum. Central purchase of office machines has enabled bulk prices to be negotiated with suppliers with substantial savings to Government.

The Central Statistics Branch (a punched card installation) was taken over temporarily by the Organisation and Methods Adviser in January, 1958, for developing into a common user service. Preparation of a Statistical Development Programme during 1961, which proposed the establishment of a Central Statistical Bureau together with the necessary consequential legislation, was followed by a visit of the Chief Statistician of the Department of Technical Co-operation in early 1962, during which a final agreed report was produced. This was accepted by Government and implemented from 1st July, 1962, from which date responsibility for the Central Statistics Branch (now the Central Statistics Bureau) passed to the Financial Secretary.

Departments are encouraged to refer any problems of organisation, procedure, forms and machines to Organisation and Methods for advice. A further stage of this Organisation and Methods advisory service has been the publication of an Information Bulletin which commenced in 1962 and is issued every two or three months; it contains items of information and hints on office work, machines and anything else which is likely to improve efficiency.

VII

WEIGHTS AND MEASURES

THE standard weights and measures recognised under the Laws of Sarawak are the Imperial yard, the Imperial pound and the Imperial gallon.

Certain local customary weights and measures having the values set out below are also lawful:

1 Tahil	=	1 $\frac{1}{3}$ ozs
1 Kati (16 tahils)	=	1 $\frac{1}{3}$ lbs
1 Picul (100 katis)	=	133 $\frac{1}{3}$ lbs
1 Koyan (40 piculs)	=	5,333 $\frac{1}{3}$ lbs
1 Chhun	=	1.19/40 inches
10 Chhuns	=	1 Chhek = 14 $\frac{3}{4}$ inches
1 Panchang	=	108 stack cubic feet

VIII

NEWSPAPERS AND PERIODICALS

(AS AT THE END OF DECEMBER, 1962)

KUCHING

	<i>Founded</i>
<i>Sarawak Gazette</i> (monthly : English)	1870
<i>Sarawak Museum Journal</i> (twice yearly : English)	1911
<i>Sarawak Tribune</i> (daily : English)	1945
<i>Chinese Daily News</i> (daily : Chinese)	1945
<i>Utusan Sarawak</i> (tri-weekly : Malay)	1949
<i>Pedoman Ra'ayat</i> (monthly : Malay)	1950
<i>Pembrita</i> (monthly : Iban)	1950
<i>Sarawak Vanguard</i> (daily : Chinese)	1952
<i>Radio Times of Sarawak</i> (fortnightly : English—Malay—Chinese—Iban)	1955
<i>Sarawak by the Week</i> (weekly : English)	1956
<i>Sarawak Dalam Sa-minggu</i> (weekly : Malay)	1957
<i>Sarawak Mei Chou Sin Wen</i> (weekly : Chinese)	1960
<i>Dolphin</i> (monthly : English)	1960
<i>Dolphin</i> (monthly : Chinese)	1961
<i>Sarawak Karang Saminggu</i> (weekly : Iban)	1961
<i>Extracts from the Chinese and Malay Press in Sarawak</i> (daily : English)	1961
<i>Ta Chung Daily News</i> (daily : Chinese)	1962

SIBU

<i>Sie Hwa Daily News</i> (daily : Chinese)	1945
<i>Borneo Daily News</i> (daily : Chinese)	1962

MIRI

<i>Miri Daily News</i> (daily : Chinese)	1957
--	------

IX

BIBLIOGRAPHY

OFFICIAL PUBLICATIONS

GENERAL

- The Colonial Office List*
- The Sarawak Government Staff List*
- The Sarawak Government Gazette*
- The Proceedings of Council Negri*
- Information on Sarawak (1960)*
- The Annual Reports on Sarawak (1946-1961)*

SPECIAL STUDIES

- The Sarawak Museum Journal* (twice yearly) (Kuching: Government Printing Office)
- The Natural Resources of Sarawak* (Second Edition, 1952) (Kuching: Government Printing Office)
- A Report on the 1947 Population Census*—J. L. Noakes (London: Crown Agents for the Overseas Territories; Kuching: Government Printing Office, 1950)
- Sarawak Papers: the Scientific Results of the Oxford University Expedition to Sarawak in 1932* (London: Oxford University Press, 1952)
- Forest Trees of Sarawak and Brunei*—F. G. Browne (Kuching: Government Printing Office, 1955)
- Common Sarawak Timbers*—Sarawak Forest Department (Kuching: Borneo Literature Bureau, 1961)
- Fiscal Survey Report of Sarawak*—Professor T. H. Silcock (Kuching: Government Printing Office, 1956)
- Report of the Commission on the Public Services of the Governments of Sarawak, North Borneo and Brunei* (Kuching: Government Printing Office, 1956)
- Sarawak: Political and Economic Background*. Royal Institute of International Affairs, Chatham House (London: Oxford University Press, 1957)
- Report on Secondary Education*—D. McLellan (Kuching: Government Printing Office, 1959)

A Guide to Education in Sarawak (Sarawak Information Service, 1961)

Annual Reports of the Geological Survey Department (1949-1961)
Kuching: Government Printing Office)

Geological Memoirs and Bulletins: (the nine following publications relating to Sarawak form part of a large series of memoirs, bulletins, reprints and maps produced by the Geological Survey Office):

Memoir 1. *The Geology and Mineral Resources of the Strap and Sadong Valleys, West Sarawak, including the Klingkang Range Coal*, by N. S. Haile (Kuching: Government Printing Office, 1954)

Memoir 3. *The Geology and Mineral Resources of the Kuching-Lundu Area, West Sarawak, including the Bau Mining District*, by G. E. Wilford (Kuching: Government Printing Office, 1955)

Memoir 7. *The Geology and Mineral Resources of the Lupar and Saribas Valleys, West Sarawak*, by N. S. Haile (Kuching: Government Printing Office, 1957)

Memoir 8. *The Geology and Mineral Resources of the Upper Rajang and Adjacent Areas*, by H. J. C. Kirk (Kuching: Government Printing Office, 1958)

Memoir. 10. *The Geology and Mineral Resources of Brunei and Adjacent Parts of Sarawak*, by G. E. Wilford (Brunei: Brunei Government Printer, 1960)

Memoir 11. *Geology and Mineral Resources of the Lower Rajang Region, Sarawak*, by E. B. Wolfenden (Kuching: Government Printing Office, 1960)

Memoir 13. *The Geology and Mineral Resources of the Suai-Baram Area, North Sarawak*, by N. S. Haile (Kuching: Government Printing Office, 1962)

Bulletin 3. *The Geology of Sarawak, Brunei and the Western Part of North Borneo*, by P. Liechti (Kuching: Government Printing Office, 1960)

Bulletin 4. *Proceedings of the British Borneo Geological Conference*, by F. H. Fitch (Kuching: Government Printing Office, 1961)

Social Science Research in Sarawak—E. R. Leach (Her Majesty's Stationery Office, 1950)

The Chinese of Sarawak—Ju K'an T'ien (London School of Economics, 1953)

Report on a Melanau Sago Producing Community in Sarawak—H. S. Morris (Her Majesty's Stationery Office, 1953)

- The Land Dayaks of Sarawak*—W. R. Geddes (Her Majesty's Stationery Office, 1954)
- Report on the Iban of Sarawak*—J. D. Freeman (Kuching: Government Printing Office, 1955)
- Iban Agriculture*—J. D. Freeman (Her Majesty's Stationery Office, 1955)
- Report of the Commission of Direct Taxation* (Kuching: Government Printing Office, 1959)
- Report on the Census of Population, 1960*—L. W. Jones (Kuching: Government Printing Office, 1961)
- Report on the Housing Census held in Eight Towns, 1960*—L. W. Jones (Kuching: Government Printing Office, 1961)
- Sarawak Land Law and Adat*—A. J. N. Richards (Kuching: Government Printing Office, 1961)
- Land Committee Report*—A. J. N. Richards (Kuching: Government Printing Office, 1962)
- Cobbold Commission Report, 1962*
- Danger Within*—Sarawak Information Service (Kuching: Government Printing Office, 1962)
- The Countryman's Guide to Politics*—Sarawak Information Service (Kuching: Government Printing Office, 1962)
- Sarawak in Brief*—Sarawak Information Service (Kuching: Government Printing Office, 1962)
- Inter-Governmental Committee Report, Sessional Paper No. 1 of 1963*

BOOKS

GENERAL

- The Expedition to Borneo of H.M.S. Dido for the Suppression of Piracy* (containing extracts from the journals of Sir James Brooke, the first Rajah)—Captain H. Keppel, R.N. (1846)
- Sarawak*—Hugh Low (1848)
- Rajah Brooke's Journals*—Captain Mundy, R.N. (1848)
- Life in the Forests of the Far East*—Spenser St. John (1863)
- Ten Years in Sarawak*—Sir Charles Brooke (the second Rajah) (1866)
- The Rajah of Sarawak*—Jacob (1876)
- Natives of Sarawak and British North Borneo*—Ling Roth (1896)
- The Life of Sir James Brooke*—Spenser St. John (1899)
- Sarawak under its Two White Rajahs*—S. Baring-Gould and C. A. Bampfylde (1909)
- Seventeen Years among the Sea Dayaks of Borneo*—Gomes (1911)
- The Pagan Tribes of Borneo*—Hose and McDougall (1912)

- My Life in Sarawak*—Margaret, Ranee of Sarawak (1913)
- Borneo, the Land of River and Palm*—Eda Green (1919)
- Sarawak* (a handbook written for the Malayan-Borneo Exhibition, Singapore, 1922)—Sylvia, Ranee of Sarawak
- Letters from Sarawak*—Harriette McDougall, wife of Francis McDougall, first Bishop of Labuan (1924)
- Rajah Brooke and Baroness Burdett-Coutts* (Letters)—Owen Rutter (1936)
- Iban or Sea Dayak Fabrics and their Patterns*—Alfred C. Haddon and Laura E. Stark (Cambridge University Press, 1936)
- Borneo Jungle*—Tom Harrisson (1938)
- The Three White Rajahs*—Sylvia, Ranee of Sarawak (1938)
- A Naturalist in Sarawak*—E. Banks (Kuching Press, 1949)
- James Brooke of Sarawak*—Emily Hahn (1953)
- Angela Burdett-Coutts and the Victorians*—Clara Burdett Patterson (London: John Murray, 1953)
- Wings of the Morning*—The Ven. Arthur F. Sharpe (London: Greaves, 1954)
- Outlines of Sarawak History—1939-1946*—A. B. Ward and D. C. White (Kuching: Government Printing Office, 1954)
- Nineteenth-Century Borneo: A Study in Diplomatic Rivalry*—Graham Irwin (Singapore: Donald Moore, 1955)
- Borneo People*—Rt. Hon. Malcolm MacDonald, P.C. (London, Jonathan Cape, 1956)
- The Borneo Story*—Henry Longhurst (London: Newman Neame, 1956)
- Sea Dayak Dictionary*—N. C. Scott (Kuching: Government Printing Office, 1956)
- Sarawak*—Hedda Morrison (London, MacGibbon and Kee, 1957)
- Nine Dayak Nights*—W. R. Geddes (Melbourne: Oxford University Press, 1957)
- Longhouse and Jungle*—Guy Arnold (Chatto and Windus, 1959)
- World Within*—Tom Harrisson (Cresset Press, 1959)
- Sarawak and Its Government*—Hugh Hickling (Kuching: Government Printing Office, 1954: reprinted 1960)
- Pagan Innocence*—K. F. Wong (Jonathan Cape, 1960)
- Birds of Borneo*—B. E. Smythies (Oliver and Boyd, 1960)
- The White Rajahs*—Steven Runciman (Cambridge University Press, 1960)

The White Rajahs of Sarawak—Robert Payne (Robert Hale, 1960)

The Story of Sarawak—Vernon Mullen (Kuala Lumpur: Oxford University Press in association with Borneo Literature Bureau, 1960)

A Season in Sarawak—Mora Dickson (Dobson, 1962)

Sarawak and Its People—M. G. Dickson (Kuching: Government Printing Office, 1954: reprinted, 1962)

Life in a Longhouse—Hedda Morrison (Borneo Literature Bureau, 1962)

Orang-Utan—Barbara Harrisson (Collins, 1962)

APPENDICES

TABLE IA. NUMBERS OF SCHOOLS AND PUPILS AS IN SEPTEMBER, 1962

APPENDICES

Type of School and Medium of Instruction	Primary				Secondary				Teacher-Training			
	Schools	Enrolment			Schools	Enrolment			Schools	Enrolment		
		Male	Female	Total		Male	Female	Total		Male	Female	Total
GOVERNMENT AND AIDED SCHOOLS	2	406	305	711	10	1,065	270	1,335	3	291	92	383
Government (English)	513	24,125	12,069	36,194	—	—	—	—	—	—	—	—
Local Authority (English)	9	662	583	1,245	—	—	—	—	—	—	—	—
Local Authority (Chinese)	5	548	476	1,024	—	—	—	—	—	—	—	—
Private Committees (English)	112	6,086	3,056	9,142	3	275	53	328	2	11	47	58
Church or Mission—Native (English) ...	21	4,562	3,662	8,224	10	2,093	1,324	3,417	—	—	—	—
Church or Mission—Other (English) ...	7	931	846	1,777	—	—	—	—	—	—	—	—
Church or Mission—Other (Chinese) ...	—	—	—	—	3	Ch. 384 E. 21	230 22	614 43	—	—	—	—
Church or Mission—Other (Chinese converting to English)	—	—	—	—	—	—	—	—	—	—	—	—
Chinese Committees (Chinese)	225	21,438	18,216	39,654	—	—	—	—	—	—	—	—
Chinese Committees (Chinese converting to English)	—	—	—	—	8	Ch. 293 E. 44	749 51	2,042 95	—	—	—	—
UNAIDED SCHOOLS	5	150	127	277	11	1,722	1,086	2,808	—	—	—	—
Private Committees (English)	8	459	296	755	6	566	372	938	—	—	—	—
Church or Mission (English)	—	—	—	—	1	378	—	378	—	—	—	—
Church or Mission (English and Chinese)	9	391	297	688	10	1,870	911	2,781	—	—	—	—
Chinese Committees (Chinese)	916	59,758	39,933	99,691	62	9,711	5,068	14,779	—	—	—	—
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—
Add Primary				916	59,758	39,933	99,691	—	—	—	—	—
Total Primary and Secondary				978	69,469	45,001	114,470	—	—	—	—	—
Add Technical and Vocational Course				2	11	47	58	—	—	—	—	—
GRAND TOTAL				980	69,480	45,048	114,528	—	—	—	—	—

APPENDIX A—(contd.)

TABLE Ib. NUMBERS OF PUPILS CLASSIFIED BY RACE AND TYPE OF SCHOOL AS IN SEPTEMBER, 1962
(In this Table the columns for Local Authority and Church or Mission include all schools under these managements, whatever the medium of instruction)

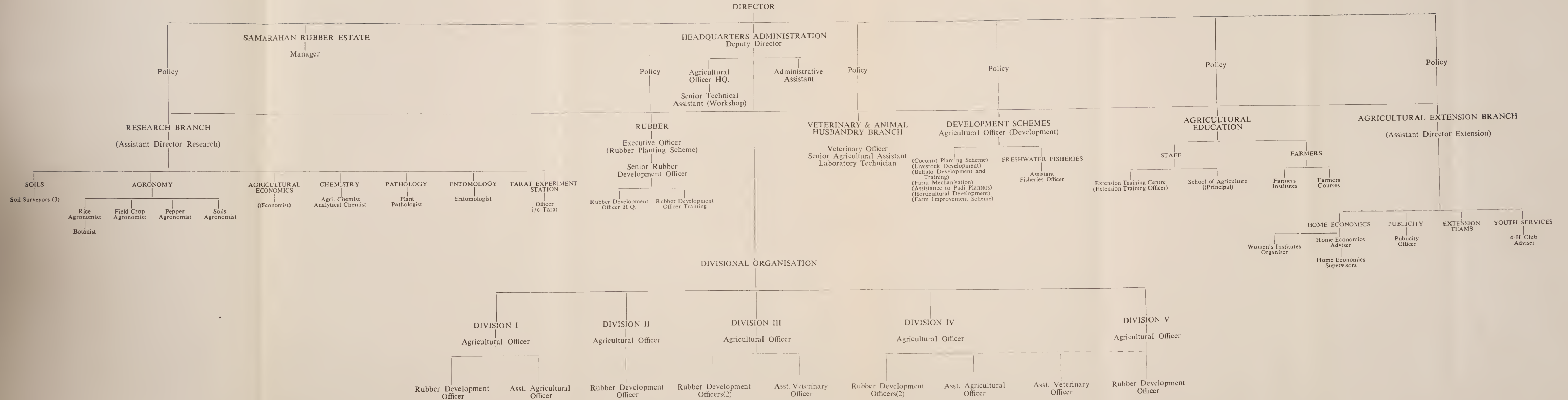
RACE OF PUPILS	School Age Population	TYPE OF SCHOOLS								TOTAL	Percentage of School Age Population
		Govt. Schools	Aided Schools				Unaided Schools				
			Local Authority	Church or Mission	Chinese (Com.)	Private (Com.)					
Chinese	83,206	P. 241 S. 468	P. 2,646 S. —	P. 9,299 S. 3,296	P. 39,444 S. 2,134	P. 8 S. —	P. 999 S. 5,979	P. 52,637 S. 11,877	64,514	77.53	
Malay	39,030	P. 326 S. 345	P. 12,815 S. —	P. 1,024 S. 376	P. 57 S. 1	P. 954 S. —	P. 154 S. 606	P. 15,330 S. 1,328	16,658	42.71	
Dayak and Other Indigenous	107,688	P. 100 S. 513	P. 21,744 S. —	P. 8,464 S. 587	P. 146 S. 1	P. 62 S. —	P. 526 S. 280	P. 31,072 S. 1,381	32,453	30.13	
Other Asians, Eurasians, and Europeans	2,356	P. 44 S. 9	P. 204 S. —	P. 356 S. 143	P. 7 S. 1	P. — S. —	P. 41 S. 40	P. 652 S. 193	845	35.86	
TOTAL	232,280	P. 711 S. 1,335	P. 37,439 S. —	P. 19,143 S. 4,402	P. 39,654 S. 2,137	P. 1,024 S. —	P. 1,720 S. 6,805	P. 99,691 S. 14,779	114,470	49.29	

P. denotes Primary and S. denotes Secondary

In accordance with a definition recommended by UNESCO, the school age population given above is the population between the ages of 5 and 14 years inclusive. The correct ages in Sarawak schools are: Primary 6—11 inclusive; Junior Secondary 12—14 inclusive, which may be followed by two, three or four years of Senior Secondary education.

APPENDIX B

ORGANISATION OF THE DEPARTMENT OF AGRICULTURE AS AT 1ST JANUARY, 1963



AIRCRAFT MOVEMENTS STATISTICS 1962

AIRFIELD				PASSENGERS		FREIGHT (KILOS)		MAIL (KILOS)	
				Embarked	Disembarked	Picked Up	Set Down	Picked Up	Set Down
Kuching	...	...	...	3,264 (1,429)	3,464 (1,583)	29,708 (8,746)	12,934 (3,526)	15,022 (5,719)	6,986 (1,567)
Sibu	...	...	...	5,746 (3,577)	5,229 (3,462)	38,506 (25,496)	34,967 (9,619)	19,528 (13,616)	20,889 (10,258)
Simanggang	...	...	...	828 (1,747)	776 (1,633)	3,094 (5,589)	8,085 (14,702)	1,053 (1,382)	1,538 (1,781)
Mukah	...	...	...	551 (643)	654 (774)	1,054 (905)	2,442 (2,151)	615 (669)	1,186 (1,273)
Bintulu	...	...	...	4,340 (2,561)	4,248 (2,259)	16,630 (9,618)	30,664 (12,051)	1,960 (1,491)	3,017 (3,021)
Lutong	...	...	...	2,688 (2,311)	2,615 (2,366)	7,759 (6,356)	18,881 (19,307)	7,499 (8,385)	9,951 (10,810)
Marudi	...	...	...	815 (679)	886 (804)	10,838 (4,937)	8,657 (1,990)	488 (1,002)	1,759 (1,762)
Long Akah	...	...	...	7 (15)	18 (19)	— (29)	32 (327)	4 (12)	7 (59)
Bario	...	...	...	188 (66)	182 (62)	8,957 (1,315)	12,065 (1,740)	69 (51)	103 (100)
Lawas	...	...	...	412 (111)	457 (136)	716 (69)	640 (34)	471 (87)	924 (229)

NOTE: Figures in parentheses are in respect of 1961.

APPENDIX C—(contd.)

CIVIL AVIATION: PASSENGERS, FREIGHT AND MAIL STATISTICS 1962

(A) MAIN LINE SERVICES

AIRPORT	PASSENGERS			FREIGHT (KILOS)			MAIL (KILOS)		
	Embarked	Dis-embarked	Transit	Picked Up	Set Down	Transit	Picked Up	Set Down	Transit
Kuching	12,927 (12,806)	12,316 (12,308)	10,228 (10,010)	68,171 (63,990)	193,426 (150,894)	276,027 (258,826)	38,834 (33,305)	34,064 (36,843)	80,885 (80,740)
Sibu	5,551 (8,674)	6,013 (8,660)	3,114 (5,112)	28,637 (28,817)	53,378 (80,078)	70,633 (91,926)	9,762 (16,842)	18,211 (22,204)	32,271 (47,288)

NOTE: (a) Internal Services Statistics are not included.
 (b) Figures in parentheses are in respect of 1961.

CIVIL AVIATION: PASSENGERS, FREIGHT AND MAIL STATISTICS 1962

(B) INTERNAL SERVICES

AERODROME				INTERNAL SERVICES		OTHER CIVIL		MILITARY		TOTAL	
				In	Out	In	Out	In	Out	In	Out
Kuching	...	...	...	448 (132)	447 (132)	1,089 (1,196)	1,090 (1,195)	315 (107)	312 (107)	1,852 (1,435)	1,849 (1,434)
Sibu	...	...	...	706 (422)	706 (422)	527 (802)	527 (803)	112 (14)	112 (14)	1,345 (1,238)	1,345 (1,239)
Simanggang	...	...	...	169 (211)	169 (211)	— (—)	— (—)	18 (—)	18 (—)	187 (211)	187 (211)
Mukah	...	...	...	96 (103)	96 (103)	3 (3)	3 (3)	4 (—)	4 (—)	103 (106)	103 (106)
Bintulu	...	...	...	442 (439)	442 (439)	947 (154)	949 (156)	25 (—)	23 (—)	1,414 (593)	1,414 (595)
Lutong	...	...	...	428 (454)	428 (454)	104 (71)	105 (71)	203 (—)	203 (—)	735 (525)	736 (525)
Marudi	...	...	...	154 (128)	154 (128)	29 (51)	29 (51)	88 (—)	88 (—)	271 (179)	271 (179)
Lawas	...	...	...	98 (30)	98 (30)	16 (8)	16 (8)	58 (—)	58 (—)	172 (38)	172 (38)
Long Akah	...	...	...	4 (7)	4 (7)	17 (6)	17 (6)	4 (—)	4 (—)	25 (13)	25 (13)
Bario	...	...	...	34 (9)	34 (9)	16 (14)	16 (14)	20 (—)	20 (—)	70 (23)	70 (23)

NOTE: Figures in parentheses are in respect of 1961.

APPENDIX D
SARAWAK

HEIGHT OF STATION: 85 FEET
ABOVE MEAN SEA LEVEL

CLIMATOLOGICAL SUMMARY YEAR 1962
STATION: KUCHING AIRPORT

LATITUDE: 1° 29'N
LONGITUDE: 110° 20'E

APPENDICES

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Means or Extre.
Mean 0800 hr. Air Pressure at MSL. (MBS)	1009.2	1011.5	1010.4	1010.1	1008.9	1009.8	1009.2	1010.7	1010.1	1010.3	1010.7	1010.9	—	1010.1
<i>Air Temperature in Degrees Fahrenheit—</i>														
Means of:														
A—Maximum	83.9	83.3	86.9	88.3	90.2	89.7	90.3	88.1	89.2	88.6	87.6	85.5	—	87.6
B—Minimum	73.1	72.0	72.6	72.7	73.8	72.8	72.3	72.0	72.7	72.6	72.4	72.7	—	72.6
Mean of "A" & "B"	78.5	77.7	79.7	80.5	82.0	81.3	81.3	80.1	80.9	80.6	80.0	79.1	—	80.1
Absolute Extremes:														
Highest Maximum	88.3	89.3	90.3	90.7	93.0	93.0	93.6	93.7	92.0	92.9	90.2	89.8	—	93.7
Date	16	28	28	29	29	13	13	2	14	26	29	16	—	—
Lowest Minimum	68.6	68.0	70.4	68.3	70.5	70.6	70.0	68.8	70.9	70.3	71.0	70.0	—	68.0
Date	26	8	9	15	22	28	4	7	16	3, 15	5	17	—	—
Lowest Maximum	74.4	78.2	80.0	83.2	86.0	82.3	85.6	79.9	84.9	82.0	81.7	78.3	—	74.4
Date	25	4	6	3	23	30	1	27	13	5	2	21	—	—
Highest Minimum	75.5	74.2	75.1	75.7	76.0	74.7	74.9	73.2	75.7	75.0	74.0	74.4	—	76.0
Date	22	11	21	1	24	14	19	3, 17	8	27	10	29	—	—
<i>Rainfall (inches)—</i>														
Total	41.32	24.59	16.70	10.39	14.08	6.32	6.78	9.17	12.92	7.54	12.21	15.72	177.74	—
Most in a day:														
Amount	7.25	7.21	4.58	1.36	2.76	1.69	2.25	1.68	2.33	1.20	2.79	4.30	—	7.25
Date	23	19	29	Sev	21	17	16	20	15	12	23	23	—	—
<i>Number of Days—</i>														
Precipitation	29	24	27	21	20	21	13	18	15	20	22	24	254	—
Thunderstorm	4	4	10	11	12	11	11	7	13	9	8	3	103	—
Thunder heard	5	4	14	16	20	15	13	12	17	14	10	4	144	—
Fog	6	3	7	10	4	4	—	7	—	5	7	2	55	—
Gale	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Bright Sunshine (hours)—</i>														
Total	79.35	68.05	136.50	150.75	191.10	201.05	221.00	169.25	146.60	150.35	148.50	125.90	—	149.03
Daily mean	2.56	2.43	4.40	5.03	6.16	6.70	7.13	5.46	4.89	4.85	4.95	4.06	—	4.89
<i>Earth Temperature in Degrees Fahrenheit—</i>														
1 foot	81.8	80.3	83.2	83.7	84.5	84.5	84.6	83.9	83.9	83.7	82.5	81.9	—	83.2
4 feet	83.1	81.6	82.9	83.7	84.5	84.9	84.7	84.8	84.4	84.2	83.7	83.0	—	83.8

SARAWAK

HEIGHT OF STATION: 23 FEET CLIMATOLOGICAL SUMMARY YEAR 1962 LATITUDE: 02° 20'N
 ABOVE MEAN SEA LEVEL STATION: SIBU AIRPORT LONGITUDE: 111° 50'E

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Means or Extre.
Mean 0800 hr. Air Pressure at MSL. (MBS)	1009.3	1011.6	1010.6	1010.5	1009.2	1010.3	1009.6	1010.9	1010.6	1010.7	1011.2	1011.2	—	1010.5
<i>Air Temperature in Degrees Fahrenheit—</i>														
Means of:														
A—Maximum	85.3	85.5	88.2	89.8	91.4	90.5	91.6	89.9	89.3	89.3	88.4	86.0	—	88.8
B—Minimum	72.7	72.0	72.4	72.3	72.6	71.6	71.3	71.5	72.2	72.5	72.2	72.3	—	72.1
Mean of "A" & "B"	79.0	78.7	80.3	81.1	82.0	81.1	81.5	80.7	80.7	80.9	80.3	79.1	—	80.5
Absolute Extremes:														
Highest Maximum	90.9	92.2	92.3	95.1	96.7	95.2	95.3	94.3	93.9	93.9	90.2	90.5	—	96.7
Date	18	9	28	20	6	3	14	2	18	26	10	15	—	—
Lowest Minimum	68.7	70.0	69.0	68.0	70.0	67.3	68.4	67.3	68.5	69.9	69.8	69.6	—	67.3
Date	26	8	13	18	10	12	7	8	14	24	18	16	—	—
Lowest Maximum	76.7	81.1	77.4	84.8	84.0	81.6	85.6	82.4	81.2	83.0	83.0	78.4	—	76.7
Date	25	7	6	3, 11	17	18	1	27	13	5, 17	25, 28	21	—	—
Highest Minimum	75.0	74.0	74.5	74.8	74.5	74.0	73.7	73.6	75.0	75.2	74.3	75.1	—	75.2
Date	21	10	26	1. 25	24	17	30	24	15	11	27, 29	29	—	—
<i>Rainfall (inches)—</i>														
Total	16.56	9.81	15.12	6.55	9.82	8.95	6.58	5.66	11.19	7.98	13.29	12.54	124.05	—
Most in a day:														
Amount	2.08	1.69	2.41	1.57	2.42	2.00	3.28	1.38	2.15	2.70	2.48	2.10	—	3.28
Date	28	15	31	6	9	26	7	30	9	30	30	2	—	—
<i>Number of Days—</i>														
Precipitation	28	21	28	18	21	17	11	23	21	22	24	27	261	—
Thunderstorm	5	3	13	9	12	4	4	6	12	5	7	3	83	—
Thunder heard	5	4	14	4	17	6	6	8	14	7	11	5	111	—
Fog	2	7	10	9	6	6	10	7	7	10	9	11	94	—
Gale	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Bright Sunshine (hours)—</i>														
Total	95.40	104.20	140.15	168.80	188.35	207.95	239.05	189.80	157.75	191.40	166.65	145.70	—	166.27
Daily mean	3.08	3.72	4.52	5.63	6.07	6.93	7.71	6.12	5.26	6.17	5.55	4.70	—	5.45
<i>Earth Temperature in Degrees Fahrenheit—</i>														
1 foot	80.6	80.3	81.8	82.6	83.4	83.2	83.2	83.5	83.0	83.6	82.9	82.0	—	82.5
4 feet	82.2	81.3	82.1	82.9	83.6	84.0	83.6	84.5	83.8	84.0	83.8	82.9	—	83.2

APPENDIX D—(contd.)

SARAWAK

HEIGHT OF STATION: 10 FEET

CLIMATOLOGICAL SUMMARY YEAR 1962

ABOVE MEAN SEA LEVEL

LATITUDE: 3° 12'N

LONGITUDE: 113° 02'E

STATION: BINTULU

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Means or Extre.
Mean 0800 hr. Air Pressure at MSL. (MBS)	1009.4	1011.7	1010.7	1010.8	1009.4	1010.4	1009.7	1011.1	1010.7	1010.7	1011.4	1011.1	—	1010.6
Air Temperature in Degrees Fahrenheit—														
Means of:														
A—Maximum	85.2	84.0	86.2	87.2	88.5	88.5	88.7	87.0	87.5	87.3	86.5	85.4	—	86.8
B—Minimum	73.3	72.9	73.3	73.6	74.5	73.2	73.2	72.2	73.0	73.8	73.2	73.5	—	73.3
Mean of "A" & "B"	79.3	78.5	79.7	80.4	81.5	80.9	80.9	79.6	80.3	80.5	79.9	79.5	—	80.1
Absolute Extremes:														
Highest Maximum	88.9	86.2	89.4	90.2	92.5	92.3	93.0	92.2	91.1	90.2	90.2	88.0	—	93.0
Date	7	11, 28	4	25	6	9	14	2, 7	18	24	8	16	—	—
Lowest Minimum	70.4	69.1	72.0	71.6	72.6	71.4	71.3	69.0	70.1	72.5	71.0	71.0	—	69.0
Date	29	6	13	19	4, 30	4	3	9	29	18	17	15	—	—
Lowest Maximum	79.2	80.5	81.3	82.5	83.0	81.1	83.9	84.1	79.8	84.2	82.1	83.2	—	79.2
Date	29	15	20	3	9	18	31	16	13	12	9	4, 24	—	—
Highest Minimum	75.4	75.3	75.2	75.2	76.3	74.9	75.6	74.5	75.6	76.0	75.8	74.8	—	76.3
Date	10	18	14	3	27	1	30	6	6	5	27	26, 30	—	—
Rainfall (inches)—														
Total	22.12	4.97	20.36	10.17	6.76	12.21	8.52	16.38	8.25	9.55	22.26	13.84	155.39	—
Most in a day:														
Amount	4.92	0.88	4.24	2.56	1.45	3.78	1.88	3.52	1.74	5.29	3.20	1.83	—	5.29
Date	28	16	29	1	12	26	3	26	14	19	27	22	—	—
Number of Days—														
Precipitation	29	18	26	17	13	15	13	19	17	19	25	24	235	—
Thunderstorm	5	—	6	3	7	5	3	—	3	6	5	4	47	—
Thunder heard	5	—	8	9	11	8	6	5	12	9	6	6	85	—
Fog	2	1	5	5	1	2	5	1	5	3	3	4	37	—
Gale	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bright Sunshine (hours)—														
Total	106.55	108.70	163.40	174.10	191.05	218.15	209.50	201.30	148.75	180.05	168.25	161.45	—	169.27
Daily mean	3.44	3.88	5.27	5.80	6.16	7.27	6.76	6.49	4.96	5.81	5.61	5.21	—	5.55
Earth Temperature in Degrees Fahrenheit—														
1 foot	82.3	81.9	83.1	84.6	85.1	84.8	84.5	83.8	84.0	84.4	83.1	82.2	—	83.7
4 feet	83.7	83.1	83.7	84.5	85.1	85.5	85.0	84.9	84.8	84.8	84.3	83.5	—	84.4

SARAWAK

HEIGHT OF STATION: 10 FEET
ABOVE MEAN SEA LEVELLATITUDE: 4° 23'N
LONGITUDE: 113° 59'E

STATION: MIRI

APPENDICES

349

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Means or Extre.
Mean 0800 hr. Air Pressure at MSL. (MBS)	1008.6	1010.9	1009.9	1009.8	1008.6	1009.6	1008.9	1010.3	1009.8	1010.3	1010.9	1010.4	—	1009.8
<i>Air Temperature in Degrees Fahrenheit—</i>														
Means of:														
A—Maximum	85.4	85.0	86.6	87.2	88.7	88.3	88.5	86.7	86.8	86.7	86.2	85.7	—	86.8
B—Minimum	74.2	73.7	74.1	74.6	75.1	73.9	74.9	73.2	74.0	74.5	73.7	73.9	—	74.1
Mean of "A" & "B"	79.8	79.3	80.3	80.9	81.9	81.1	81.7	79.9	80.4	80.6	79.9	79.8	—	80.5
Absolute Extremes:														
Highest Maximum	90.6	87.2	89.5	90.0	92.0	91.8	90.9	91.1	89.0	90.4	89.9	88.8	—	92.0
Date	12	10	27	18	27	2	14	7	5, 18	6	30	21	—	—
Lowest Minimum	71.0	70.4	71.6	71.2	72.9	71.6	71.7	70.4	71.6	73.0	71.4	72.3	—	70.4
Date	26, 30	3	5	15	7	6	2	11	11, 14	26	17	15	—	—
Lowest Maximum	79.8	81.9	84.0	81.7	84.0	81.5	81.3	84.2	82.6	82.6	81.4	81.2	—	79.8
Date	26, 29	5	30	26	17	5	1	27	13	22	13	11	—	—
Highest Minimum	77.4	76.2	77.3	77.9	77.4	75.2	79.8	75.2	76.8	76.2	76.0	76.0	—	79.8
Date	21	15	30	3	29	1	30	30	6	11	27	7	—	—
<i>Rainfall (inches)—</i>														
Total	17.61	0.87	8.52	5.28	10.43	11.19	1.89	9.93	13.77	14.87	20.02	16.90	131.28	—
Most in a day:														
Amount	3.54	0.46	2.97	2.34	2.55	4.43	0.82	1.40	2.94	2.61	3.73	4.48	—	4.48
Date	2	16	25	25	18	17	30	27	8	17	1	30	—	—
<i>Number of Days—</i>														
Precipitation	23	9	19	14	18	16	12	21	16	20	21	22	211	—
Thunderstorm	3	2	6	7	8	4	1	5	4	5	6	1	52	—
Thunder heard	7	3	11	13	13	9	5	9	8	14	12	1	105	—
Fog...	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Gale	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Bright Sunshine (hours)—</i>														
Total	154.95	139.90	209.15	206.50	217.70	236.00	186.80	220.60	184.85	210.00	193.05	182.50	—	195.17
Daily mean	5.00	5.00	6.75	6.88	7.02	7.87	6.03	7.12	6.16	6.77	6.43	5.89	—	6.41
<i>Earth Temperature in Degrees Fahrenheit—</i>														
1 foot	82.6	83.0	84.9	85.5	86.0	85.4	86.1	84.4	83.9	84.7	82.4	81.9	—	84.2
4 feet	84.9	84.3	85.6	86.3	86.6	86.7	86.3	86.5	85.6	85.9	84.7	83.8	—	85.6

APPENDIX E

GOVERNOR AND COMMANDER-IN-CHIEF

Sir Alexander Nicol Anton Waddell, K.C.M.G., D.S.C.

MEMBERS OF SUPREME COUNCIL AT THE END OF 1962

- The Hon. the Chief Secretary (Mr. F. D. Jakeway, C.M.G., O.B.E.)
,, the Attorney-General (Mr. P. E. H. Pike, Q.C.)
,, the Financial Secretary (Mr. B. A. St. J. Hepburn, C.M.G.)
,, Mr. A. R. Snelus, C.M.G.
,, Abang Haji Mustapha bin Abang Haji Moasili, C.B.E.
 (Datu Bandar)
,, Temenggong Jugah anak Barieng, O.B.E.
,, Pengarah Montegrai anak Tugang
,, Mr. Ong Kee Hui
,, Mr. Ling Beng Siew
,, Mr. Chia Chin Shin

MEMBERS OF COUNCIL NEGRI AT THE END OF 1962

President:

The Hon. the Chief Secretary (Mr. F. D. Jakeway, C.M.G., O.B.E.)

Ex-officio Members:

- The Hon. the Attorney-General (Mr. P. E. H. Pike, Q.C.)
,, the Financial Secretary (Mr. B. A. St. J. Hepburn, C.M.G.)
,, the Deputy Chief Secretary (Mr. A. R. Snelus, C.M.G.)
,, the Secretary for Local Government (Mr. A. R. Meikle)
,, the Resident, First Division (Mr. G. Lloyd-Thomas)
,, the Resident, Second Division, (Mr. J. F. Drake-Brockman)
,, the Resident, Third Division (Mr. A. F. R. Griffin)
,, the Resident, Fourth Division (Mr. J. C. B. Fisher, O.B.E.)
,, the Resident, Fifth Division (Mr. R. H. Morris)
,, the Director of Agriculture (Mr. J. Cook, C.B.E.)
,, the Director of Education (Mr. M. G. Dickson, C.M.G.)
,, the Director of Public Works (Mr. J. K. Wardzala)
,, the Director of Medical Services (Dr. D. A. Baird, O.B.E.)

*Elected Members:**First Divisional Advisory Council*

- The Hon. Tua Kampong Haji Dol bin Osman
„ Wan Abdulrahman bin Datu Tuanku Bujang
„ Mohammad Su'ut bin Udin
„ Mr. Remigius Durin anak Nyangu
„ Mr. Dagok anak Randen

Second Divisional Advisory Council

- The Hon. Mr. Anthony Nibong
„ Pengarah Montegrai anak Tugang
„ Mr. Buda anak Ulan
„ Mr. Tan Chong Meng

Third Divisional Advisory Council

- The Hon. Mr. Sandah anak Penghulu Jarau
„ Mr. Chen Ko Ming
„ Mr. Ling Beng Siew
„ Inche Ainnie bin Dhoby
„ Temenggong Jugah anak Barieng, O.B.E.
„ Penghulu Umpau anak Empam

Fourth Divisional Advisory Council

- The Hon. Mr. G. W. Geikie, M.B.E., O.S.S.
„ Mr. John Muda
„ Temenggong Oyong Lawai Jau, M.B.E.
„ Inche Atahar Khan

Fifth Divisional Advisory Council

- The Hon. Mr. James Wong
„ Mr. Mak Yau Lim

Kuching Municipal Council

- The Hon. Mr. Ong Kee Hui

Sibu Urban District Council

- The Hon. Mr. Chieng Hie Kwong

Miri District Council

- The Hon. Mr. Chia Chin Shin

Nominated Members:

- The Hon. Abang Haji Mustapha bin Abang Haji Moasili, C.B.E.,
(Datu Bandar)
,, Captain D. R. Gribble
,, Mr. Yeo Cheng Hoe, O.B.E.
,, Mrs. Tra Zehnder

Standing Member:

- The Hon. Datu Abang Haji Openg, O.B.E.

SARAWAK ELECTRICITY SUPPLY CORPORATION: POSITION AS AT 31ST DECEMBER, 1962

Town or Location	Maximum Demand on Station kW	Installed Capacity kW	Units Sold 1962	Number of Consumers at 31.12.62	Supply Period Hours	Remarks
Kuching	3,510	5,232	13,788,627	7,757	24	Further generating set installed for continuous electricity supplies. Continuous electricity supplies instituted. Further generating set installed and work commenced on 11,000 volt ring. Site works commenced on new power station site.
Bau	48	100	53,507	158	13½	
Serian	42	170	59,796	136	13½	
Betong	57	175	65,265	185	24	
Simanggang	205	465	588,125	467	24	
Sibu	1,375	2,145	4,648,264	3,470	24	Further generating set installed for continuous electricity supplies. Further generating set installed. Converted to A.C. and continuous electricity supplies instituted. High tension network extended in Krokop area. High tension distribution system commissioned. High tension system commissioned. High tension line to Public Works Department Depot commissioned.
Sarikei	189	339	532,689	462	24	
Binatang	94	340	215,130	275	24	
Kanowit	66	175	88,999	152	13½	
Kapit	81	200	182,182	191	24	
Mukah	90	230	137,969	244	24	High tension network extended in Krokop area. High tension distribution system commissioned. High tension system commissioned. High tension line to Public Works Department Depot commissioned.
Miri	475	1,210	1,498,699	1,228	24	
Bintulu	90	200	213,980	318	24	
Marudi	96	175	146,455	237	24	
Limbang	106	154	210,293	300	24	
Total	6,524	11,310	22,429,830	15,580		

All stations provide an alternating current 400 volt Sphere 4 wire 50 cycle electricity supply.

APPENDIX G

A DISTRICT GAZETTEER OF SARAWAK

For administrative purposes Sarawak is divided into five Divisions each under the administrative control of a Divisional Resident. This *Gazetteer* will deal with each Division in turn, and each administrative district contained in the respective Division. It is hoped that the general information given may be of use to visitors.

FIRST DIVISION

Consists of the five districts at the western end of Sarawak where James Brooke first established his authority.

Kuching

Both the capital of Sarawak and that of the First Division, Kuching is situated on the banks of the Sarawak river. It is by world standards a very small town of about 60,000 inhabitants but it constitutes by far the largest concentration of population in Sarawak. It contains the principal Government and commercial offices and a certain number of small manufacturing concerns.

Kuching is nowadays generally reached by air. The airport is seven miles outside the town, to which it is joined by a rather narrow and winding road which is now in the course of being enlarged. The largest hotel, the Aurora, with air-conditioned accommodation, is in the centre of the town. There are also a number of other hotels. Commercially, Kuching is the main centre for the First and Second Divisions of Sarawak and also, oddly enough, for much of the Fourth Division which is handicapped by lack of harbours from exporting direct overseas. Municipal affairs are in the charge of a fully elected Kuching Municipal Council and a very lively standard of debate is maintained in the Council.

The population is about two-thirds Chinese and one-third Malay.

What to see in Kuching

It is suggested that the visitor should make a point of spending some time in the Sarawak Museum which exhibits excellent collections of archaeological and natural history material. The Sarawak Library adjoins the Museum and nearby are attractive public gardens. A visit to the Law Courts on the river front is also of interest, particularly the Supreme Court, an imposing building erected by the Second Rajah in 1874. Bold and imaginative local art forms have been incorporated in the roof panels and in the door and window grilles of this building. If the Court is in session do not be intimidated but go and sit in the public gallery from where you can admire the ceiling panels and see the Unified Judiciary of Sarawak, North Borneo and Brunei at work as well. The Supreme Court also serves as the legislative building for meetings of Council Negri.

A drive through the *kampong* area with its fine Mosque and numerous Malay houses built on pillars in the traditional style is always of interest, and the opportunity should also be taken to visit the port area at Sungei Priok near Pending where a small but modern port has been built. There are some small but attractive old Chinese temples.

The shopping possibilities for curios and other local work are rather limited but quite attractive local silver jewellery is obtainable from the numerous goldsmiths' shops at the lower end of Rock Road.

The Astana, formerly the Rajah's palace and built by the Second Rajah in 1870, is now the residence of the Governor and lies across river from Pangkalan Batu. Slightly downriver from the Astana is the old Fort Margherita. The Astana possesses considerable charm and contains some interesting portraits. A curious feature of the well known portrait of the First Rajah in the Astana is that the poor man has at some time been a target for blow pipe practice! The canvas has been punctured in several places. Not, one imagines, that the Rajah, whose gaiety and sense of humour helped to make him such a well loved figure among his contemporaries, would have minded very much.

Visitors to Kuching may obtain quite a few glimpses of old China in the various Chinese temples to be found in the town. The older ones are charming buildings in the best South China tradition. The Temple guardians are always glad to welcome visitors. There are no special rules for behaviour, apart from the general one of behaving politely and respectfully. The following list does not include all the temples, some of which are of purely clan or association significance, but provides details of some of the older and more important institutions:—

Temple of Tua Pek Kong or Sia San Ten: This is the oldest temple, situated on the hillock at the junction of Thompson Road and Padungan Road. In the Chinese spiritual sense, Tua Pek Kong is a sort of Registrar of Deaths. Whenever anyone in the district dies, the family come here to report the death. The temple was built in the year 1876 by the effort of all Chinese communities in the town and it is now managed by the Kuching Chinese Chamber of Commerce. On the twenty-ninth day of the seventh moon every year, spirit property and spirit money for the deceased in the form of paper are burnt.

It should be noted here that the Chinese lunar calendar is different to the western calendar and generally about three weeks behind it. Full details are given in the Sarawak Almanac.

Temple of Hian Tien Shian Tee (God of Heaven): It is the second oldest temple, situated in Carpenter Street. According to the legend widely known among the Teochew community, Hian Tien Tee ranks high in saintly spirit life. The temple was built in the year 1897 and is managed by the Teochew community. There are celebrations every year on the third day of the third moon, the birthday of Shian Tee, on the ninth day of the ninth moon, the day Shian Tee died, and on the fifteenth day of the seventh moon, Yu Lan Hui, (Chinese All Souls Day). A procession in his honour takes place every December.

Temple of Hong San (Mount Phoenix): This temple situated at the junction of Ewe Hai Street and Wayang Street, was built by the Hockien community also in the year 1897 in honour of the God Kuek Seng Ong (the holy prince Kuek). According to legend, Kuek, a native of Hockien province, became a God 1,028 years ago and always rewards those who care to worship and pray to him. The affairs of the temple are managed by the Hockien community. There are stage shows held in his honour on the twenty-second day of the second moon, Prince Kuek's birthday, and on the twenty-second day of the eighth moon when the Ch'ing dynasty (Manchu) Emperor Hsien Feng conferred on him the title of Poh Ann Kong Teck Choon Ong (Prince of Safety and Enrichment). Also on his birthday, a procession takes place in the evening.

Temple of the Goddess of Mercy or Kwan Yin: On the hillside in Tabuan Road, built in the year 1908 with donations from all Chinese communities, local and overseas, it is a Buddhist temple with a nunnery, Jit Shian Tong (Hall of Accumulation of Kindness), built behind it.

The temple is managed by the Lim Fah San Monastery Committee Association. It has two branch temples, one on a hilltop in Batu Lintang called Chong Shian Tong (Hall of All Kindness) and the other at Deshon Road called Po Teck Fu Tong (Hall of Buddha of Universal Virtues). Every year on the birthday of the Goddess of Mercy, that is the nineteenth day of the second moon; again on the day when all saved souls cross in the barge of mercy to the shore of salvation, the nineteenth day of the sixth moon; and on the ascension day, the nineteenth day of the ninth moon, Buddhists converge on the temple holding joss-sticks and burning candles asking for favours and repaying those granted by the Goddess who hears the prayers of the world.

Temple of Thye Siang Loh Koon (Laotzu): A Taoist temple situated in Tabuan Road built in 1953 by a Taoist priest, now dead, from China. Festival dates of this temple are on the fifteenth day of the second moon, the first day of the seventh moon, the fourteenth day of the ninth moon and the sixteenth day of the twelfth moon which are all said to be the birthdays of Lao Tzu.

Temple of Tien Hou or the Goddess of Seamen: The temple, situated in Padungan, was built by the local Chinese fishermen in the year 1927 and is now under the management of the Kuching Fishing Kotak Association whose membership consists largely of the Heng Hua and Heng Ann clans. Tien Hou, says the legend, was a Sung Dynasty (960-1279) girl born with bright and lucky omens. When grown up, she was able to cross the sea upon a mattress. Later on, goes the legend, through sublimation, she became a Goddess. Since then, many miracles performed by her on the high seas in rescuing ships and sailors were reported. Local Chinese fishermen pay their respects and pray for a safe return from fishing in this temple. Every year on the birthday of the Goddess of Seamen, that is on the twenty-third day of the third moon, seamen and their families gather in the temple to celebrate.

There are several cinemas, and Chinese and Indian restaurants. Some suggestions in the matter of food are to be found under the section entitled Food and Drink.

Night life is largely non-existent and there are no cabarets or night clubs. The Sarawak Club, the Union Club and St. Michael's Association provide normal club facilities, and any visitor wishing to avail himself of such facilities should contact the club secretaries. There is also a flourishing Art Club, Music Club, Rotary, Jaycees and various associations such as the Australian Association, the Ex-Services Association and the St. Andrew's, St. David's, St. George's and St. Patrick's Societies. There are very ample facilities for religious observance. The Anglican and Roman Catholic Cathedral Churches are both in Rock Road and there is a Methodist Church in Pisang Road. A signal gun is fired every evening at 8, a practice dating back to the days of the Rajahs.

There are regular race meetings, and in common with many other centres in Sarawak, Kuching has an annual regatta, mostly for canoes manned by eight to sixty paddlers, which is always worth seeing. In addition there are regular outboard races.

While Kuching can hardly be regarded as a tourist resort, its winding old-fashioned streets and the friendliness and good humour of its people give it a charm all its own.

Kuching—Rural

Kuching has a large rural area which stretches as far as Mile 26½ along the road to Serian. There are a number of small bazaars along

this road and also at various places on the coast. The population consists of Chinese, Malays and Land Dayaks. A good impression of the interior of the country can be gained by a drive up the Padawan feeder road which joins the Serian Road at Mile 22. For those who like hiking there is an interesting walk to the top of Serapi, the principal and highest point of the Matang range, from where a very fine view can be obtained over the countryside and seacoast. A path which is still in quite good condition, and which was built by the Rajahs, commences at the Waterworks Depot at Mile 8 on the Matang Road. There is an interesting and well labelled Arboretum at Semongok off Mile 10 of the Serian Road.

There are a number of interesting coastal villages and a visit to Santubong is well worth while. For this it is necessary to hire a launch or outboard. There are Government resthouses at Santubong which lie below the very fine and precipitous Santubong mountain, and these may occasionally be hired. Application should be made to the Public Works Department.

For the really energetic a scramble to the Trig. Station near the top of Santubong is an interesting experience. A guide is procurable for \$5 which may seem steep but not nearly as steep as the path to the top! Santubong was the site of a trading station in the middle ages or even earlier. At that time the mountain was really an island and there are many remains at its foot brought from China. A figure believed to be of Indian origin has also been unearthed there.

To the east of Santubong there is a National Park and Nature Reserve in the Bako area. Here again there is limited accommodation which may be hired through the Warden, c/o the Forestry Department. The National Park covers a considerable area of rather poor but virgin jungle through which a number of interesting walks have been cut. There are also some good bathing beaches at the further end of the Park.

Bau

Bau is the centre of a district which was formerly important for gold mining and lies amongst a jumble of steep limestone mountains. It is a sleepy little town although there has recently been some revival of interest in gold mining. The surroundings are very attractive. The former surface workings have now become flooded and form several pretty lakes. There is good swimming in one called Tai Parit but swimmers should note that it is 200 feet deep. There is a good road to Bau which is about twenty-two miles from Kuching. A number of little bazaars exists in the neighbourhood. Siniawan is of interest for it was one of the centres of the rebellion in 1857 when the Chinese gold miners captured Kuching and very nearly destroyed the then infant state of Sarawak. The population of Bau District is predominantly Chinese and Land Dayak.

Lundu

Lundu is the most westerly district in Sarawak. It is reached by sea from Kuching. Lundu itself is a small bazaar lying beneath an impressive mountain known as Gunong Gading. An even finer mountain range, Gunong Pueh, runs down to the sea to the west of Sematan. At Sematan there are very important deposits of high-grade bauxite, which is mined for export mainly to Japan and Formosa. There are three such deposits, one immediately behind Sematan, another a few miles away on a hill called Bukit Gebong and the third deposit at Tanjong Serabang. There are some very beautiful beaches between Sematan and Tanjong Datu, and it is unfortunate that they should be so very difficult of access. The turtle islands of Talang Talang also lie within the district, but they

may only be visited with the permission of the Curator of the Sarawak Museum. The district is inhabited by Land Dayaks, some Ibans and a fair number of Malays and Chinese.

Upper Sadong

Serian, forty-two miles from Kuching, is the capital of the Upper Sadong district which is the main Land Dayak district of Sarawak. The importance of this bazaar was due to its being for many years the end of the road designed to link Kuching and Simanggang. It adjoins the Sadong river. There is an older and smaller bazaar at Tebakang, a little way upriver. A drive up the road to Tebedu will give the visitor a good impression of the beautiful but rather impoverished Land Dayak country, which has been degraded by over-cultivation and excessive pressure of the population on the available land.

At Mile 34½ on the Serian Road there is the Tarat Agricultural Station where a visitor is always welcome. This is also a centre for instruction in agricultural extension and rural education. At Mile 32 a road runs off to the left to link Samarahan estate. This was formerly a Japanese rubber estate. After the war it was purchased by the Rubber Fund. Serian is an important pepper producing centre.

Lower Sadong

This area covers extensive swamps on the lower Sadong and coastal areas at the mouth of the river. It is a fertile and important *padi* production area of Sarawak. The population is very largely Malay, but there is also a prosperous community of Bugis immigrants from the Celebes. The capital is Simunjan and a few miles inland is Gunong Ngili where, from 1873 to 1931, the Rajah's government used to mine coal. The mine workings have been abandoned for many years now, but a visit to the hill is of interest and can be made along the line of the old mine railway. Sadong is one of the main areas where the Orang Utan or Maias is still found in Sarawak. The river has a strong tidal bore, and this is a feature which has to be watched by persons travelling by boat.

SECOND DIVISION

This Division, which was originally the main Dayak stronghold of the country, is reached from Kuching by road.

Simanggang

The capital of the Division and of the district bearing its name. It is a small town on the banks of the Batang Lupar, a shallow tidal river with a very strong bore. Originally, in 1849, the Rajahs established a fort further upstream at the mouth of the Skrang river but the site was low-lying and liable to flood and consequently the fort was moved down in the year 1864. The bore is incidentally the source of Somerset Maugham's rather uncharitable story, "The Yellow Streak". Simanggang is a fair sized bazaar, with an airfield, modern hospital and a new secondary school. There is a small rest house which is, however, generally occupied by visiting Government officers, and a pleasant little club.

The district covers a considerable area from the Sebuyau sub-district at the mouth of the Batang Lupar to the Skrang. At Sebuyau there is a small Government station and it is also the site of a large quarry in the hill of granite behind the bazaar. This is the main source of road stone for the Third Division. Midway between Sebuyau and Simanggang is another small station at Lingga, which was of some importance in the

Rajahs' days. The second Rajah spent a number of years in charge of this station before a move was made upriver to the mouth of the Skrang.

There is a fine, table-topped mountain, Bukit Lesong, above Lingga, and the Banting Dayaks living below Lesong were some of the earliest converts to Christianity in Sarawak. The Lingga river rises in the Klingkang range along the Indonesian border where considerable deposits of good quality coal are known to exist. Extensive investigations are now being undertaken by Japanese interests but it has not yet proved an economical proposition to work them.

Between Lingga and Simanggang there is a very interesting *padi*-growing area at Bijat where the bank is lined by a large number of longhouses, the inhabitants of which cultivate the fertile alluvial *padi* lands behind. The other bank of the Batang Lupar consists of the Maludam peninsula, a large area of deep peat swamp containing much valuable swamp timber.

The main tributaries of the Batang Lupar are the Undup on the left bank, and the Skrang on the right bank, both of which join the Batang Lupar above Simanggang. The Undup was formerly one of the main recruiting centres for the old Sarawak Rangers, and the Skrang was once famous for its piratical inhabitants. (The early books on Sarawak spell the word "Sakarran"). They are both very beautiful rivers in their upper reaches and the Dayaks of the Lower Skrang are amongst the most advanced and well-to-do in Sarawak.

Lubok Antu

This covers the Upper Batang Lupar area. Its two main centres are Engkilili, an important pepper growing area, and Lubok Antu, which is a small administrative centre not far from the Indonesian border. It is overlooked by a fine mountain called Bukit Besai from which on a fine day a view may be obtained of the interesting lakes of the Upper Kapuas in Indonesian territory. There is also an interesting mountain group between Engkilili and Lubok Antu called Tiang Laju. The main rivers which drain this district are the Lemanak, the Engkari and the Batang Ai which run through broken and rather impoverished hill country. The border is very close and there is a considerable amount of trade across it. Both here and elsewhere the border is a purely geographical one and in no way ethnographical. The same people live on each side.

The road from Simanggang to the Third Division passes near Engkilili to which it is linked by a spur road. An important community development scheme is under way in the Lemanak River which joins the Batang Lupar a little way below the town.

Saribas

Saribas is another district, the inhabitants of which were famous as headhunters and pirates in the early days. The quiet and sleepy rivers of the district were at one time the scene of spirited encounters between the Royal Navy and the Dayaks. The Saribas people, however, early made peace with the Rajah, embraced Christianity and are now by far the most advanced and best educated community of Dayaks in Sarawak. Some longhouses even have their own power stations. They are also very prosperous, having taken to rubber planting at a very early stage, and in fact most of the shophouses of the district are owned by Dayaks and rented out to Chinese.

The fine saddle-back mountain known as Sadok between Saribas district and the Skrang valley was the stronghold of the famous Dayak out-

law Kentap. He held out successfully against two expeditions in 1857 and 1859 and it was only at the third attempt in 1861 that the stronghold was finally reduced by the Rajah's forces.

Betong is the district capital. It is of special interest because it possesses the earliest ironwood fort still in its original form, and this still serves as the Government office. It is complete with drawbridge and upper storey which in the old days formed the residence of the District Officer. It celebrated its centenary in 1958. The Saribas river is also shallow and tidal and has a bad bore. Launches at Betong lie on the mud at low tide. Communications with Simanggang are along a small road from Betong to a place called Lidong on the Lower Skrang but there is no through road. A spur road to join the Simanggang-Saratok Road is planned. The main rivers are the Paku and the Rimbas with small bazaars called Spaoh and Debak on each river. The upper Saribas is formed of two streams called the Padeh and the Layar.

Kalaka

This district covers the area drained by the Krian and Seblak rivers. It, too, is predominantly a Dayak district although there is also a substantial Malay population. Kabong at the mouth of the Krian is one of the largest Malay *kampongs* in Sarawak.

Originally the district was inhabited by a distinct people called the Serus now absorbed by the Dayak immigrants. Curious stone figures made by the Serus are to be seen in the Sarawak Museum.

The district is a fertile one with a very considerable agricultural potential, but it has always been extremely isolated. A road is now being built to link Saratok and Sarikei with a spur connection to Roban on the Seblak river. This should greatly stimulate the development of the district by providing it with convenient, all-the-year-round access to a port. Another road is being built from Simanggang to Saratok.

Saratok district has been the centre of some very interesting pioneer work in the community development field at a place called Budu about a day's journey upstream from Saratok. The Budu scheme aims at the self-improvement of the Dayaks although the initial impetus has been supplied by the presence of European community development officers. The scheme has been extended into neighbouring areas of the Third Division.

One of the great difficulties in the Second Division has always been the urge of the Dayaks, instead of improving their own land which is admittedly impoverished, to move to other districts. It is no longer possible to provide would-be migrants with all the land which they would like and it is hoped that through community development, the provision of adequate agricultural extension services and improved education it will be possible to induce the Dayak communities to exploit their existing areas rather than to seek to move elsewhere.

Saratok has also been the centre of a pioneer venture in rural education. A Canadian Colombo Plan Group Headmaster was placed in charge of a number of rural schools and has achieved considerable success in improving their standards of efficiency. While there is no lack of educational enthusiasm in Sarawak it is only by work of this nature that the standards of rural schools can be improved.

An interesting feature of the district which may one day be put to good use is the existence of a narrow channel linking Nyabor, which lies on a tributary of the Rejang though included in the Second Division,

with Sessang on the Seblak. Given the need it would be a relatively simple matter to construct an effective canal here.

It was off Kabong near the sandbanks of Beting Marau that the Royal Navy finally broke the piratical power of the Sea Dayaks in 1849. A large Dayak fleet which had been on a foray as far as Matu was cornered by a Naval squadron and largely destroyed. The Dayaks showed great bravery in attacking the Naval vessels. Such an action was the only way to stamp out a murderous form of piracy but the loss of life was considerable and provided ammunition for many attacks on the First Rajah in England. As a result Naval assistance was withdrawn from him for good.

THIRD DIVISION

The Third Division is by far the largest one in Sarawak, and embraces the drainage areas of the Rejang, Oya, Mukah and Balingian rivers. It has a large population of Chinese downriver. Upriver and in the hills the population is predominantly Dayak, with some Kayans and Kenyahs at the head of the Rejang and Balui. There is a substantial Melanau population in the coastal area.

Sibu Urban

Sibu is the headquarters of the Third Division, the largest of the five Divisions of Sarawak. It is the main centre for an area of nearly 25,000 square miles with a population of more than 260,000 people consisting of Dayaks, Chinese, Malays and Melanaus.

The town itself is situated on a swampy, low-lying island where the main stream of the Rejang divides into two, the Rejang proper and the Igan, and lies at the commencement of the great Rejang delta with its labyrinth of streams and channels winding through the swamps.

Originally the only settlement at Sibu was a small Melanau village at Kampang Nangka, a little way down the Igan. It was passed by as the main centre of government in favour of Kanowit further upriver, the importance of which lay in its control of the mouth of the Kanowit river system and where the Iban population were at one time aggressive and war-like.

However, the obvious importance of Sibu was eventually recognised and the settlement was established together with a Government fort. Chinese traders, mostly Hockiens from Amoy, soon came to live there and by the eighties of the last century a small Government station and a bazaar had been established. The traders carried on business with the numerous upriver people to whom they supplied imported goods in return for many kinds of jungle produce.

The main turning point in Sibu's history came in the early 1900's when Methodist Foochow settlers were introduced from China with a view to taking up land for *padi*-planting along the river.

The Foochows have shown themselves to be an exceptionally industrious and self-reliant community. They quickly found that only a very meagre living can be obtained from *padi* farming and they turned instead, before the First World War to the planting of rubber. Since then they have planted up very large areas and although the soils have often been unsuitable they have derived great material prosperity from the crop. This has been augmented by pepper planting and trading and, in the last fifteen years, by large-scale participation in the timber industry. Sibu is now a predominantly Foochow town.

The urban area, which has a population of about 30,000 is administered by a fully elected Urban District Council. The adjoining country areas are similarly administered by a fully-elected Rural District Council.

The senior Government officer is the Resident, who is in administrative charge of the whole Division, and the Information Office and other branches of Government have offices there.

The total population of both the urban and rural areas of Sibul district amounted to 77,256 at the last census in June, 1960.

Apart from the Chinese there is a substantial Malay population. A large proportion of the Malays are employed in Government service. There is a small Melanau community and a further large Iban or Sea Dayak section.

Communications to other districts are mainly by water and large numbers of substantial and comfortable Chinese launches ply up and down the river at all times of the day.

Sibu is lacking in road communications though an important feeder road is being driven some thirty miles across country to open up agricultural land between Sibu and the Oya river which flows into the sea beyond the mouth of the Igan.

Visitors to Sibu will find that there are several hotels, some of which provide air-conditioned bedroom accommodation. There is also a Government resthouse but this is reserved for the use of Government officers and their families.

Visitors should make a point of touring the town which is rapidly expanding. It is in fact the most rapidly growing centre in Sarawak. Those who are not familiar with the cultivation of rubber should visit the rubber gardens although it is pointed out that the swampy land on which the rubber is often planted is not ideal. Pepper gardens are another distinctive form of cultivation which may be seen around Sibu.

A drive through the pretty Malay *kampong* should be made. Sometimes one may see the Melanau swings for the young and energetic. They look more dangerous than they really are.

Sea Dayak longhouses can also be visited, the largest in Sibu district is that at Sungei Durin. Boats with outboard engines can be hired by the hour. They can also be hired for trips up the river and hire charges are reasonable.

The local sawmills are always glad to show visitors around and the Sibu Urban District Council also welcomes visitors to their modern offices.

Those who wish to venture further afield may proceed up or down the river by Chinese launch. They are slow but comfortable. There are small Government resthouses at Kapit and Mukah.

Speedboats may be hired for travel up and down the river. Hire charges vary with the size of the boat and engine, but for a speedboat with a sixty or seventy-five horsepower engine, the charges are approximately \$20 per day, plus full cost of fuel. A return day trip to Kapit costs \$120. These speedboats are capable of carrying three to four passengers, with limited luggage. Speedboat owners have their own telephone number and it is possible to provide drivers who speak a limited amount of English.

Visitors who wish to stay overnight in Kapit are warned that the Government resthouse there is very small and generally fully booked by travelling Government officers. They can ascertain the position by telephoning the District Office, Kapit. Accommodation in the Methodist Mission Hostel in Kapit is also at times available by arrangement with the Mission authorities.

A feeder air service connects Sibü with Mukah which is a pretty little place on the coast. However, those who wish to travel further afield must count on spending a good deal of time and money in doing so.

Government officers will always advise visitors but are not able to make arrangements for them.

A certain amount of handicraft work is available at the airport and in shops in Cross Road and High Street. Such work consists mostly of silver jewellery, hats and baskets which are always available and, less regularly, blankets, and *parangs* or Bornean general-purpose slashing sword knives. However, Sarawak is not rich in the production of handicrafts and visitors should not expect too much in this direction.

There is an excellent sports ground in the centre of Sibü, the King George VI Memorial Ground, and a modern swimming pool is being built at Bukit Lima.

Sibü Rural

Sibü Rural covers a large area in the middle Rejang mainly inhabited by Foochow Chinese and Dayaks. The Foochows have planted large quantities of rubber on low-lying peat areas. This is not ideal rubber land but the rubber has brought the population a very considerable amount of prosperity. With the exception of the immediate vicinity of Sibü and the road to the Ulu Oya, travel is entirely by water although a considerable number of paths have been built on a self-help basis with assistance from the Government through the Chinese garden areas. Durin, upriver on the left bank of the Rejang, is a small bazaar. Above it rises about the first hill to be encountered, topped by a Roman Catholic church which provides a very conspicuous feature.

Binatang

Binatang is a district lying downriver from Sibü which covers the drainage areas of the Binatang and Maradong rivers, and the delta area as far as Daro and Matu. Apart from the hills at the head of the Binatang river it is almost uniformly flat and low-lying, and the delta area is covered by a maze of tidal channels. As in Sibü the population is mostly Chinese with a considerable number of Dayaks, not only in the hills but in the swamps as well. The district contains valuable forests and some good alluvial *padi* areas as well. It grows pomelos of quite exceptional quality and good oranges. The bazaar is a substantial one and is joined to Sarikei by a circular road. Road building through the swamps has proved to be a matter of considerable difficulty owing to the great depth of the peat and the high cost of filling. A spur road is being built to Julau and another one stretches as far as Nanga Pakan bazaar on the Julau River.

Matu is quite different in character from the rest of the district. It comprises a number of Melanau *kampongs* which are devoted to the working of sago. The Matu river is a curiously attractive one, fast-flowing with clear but dark-brown peat-stained water which appears black and contrasts very pleasantly with the intense green of the countryside.

There is a channel between Daro and Matu called the Aikman Canal which is passable to small boats. The boat journey is one of singular charm for those well-equipped with mosquito repellent.

In years gone by Matu was a district headquarters but its importance has declined and the last District Officer lost his reason. He was never replaced.

Sarikei

A thriving little town and port of the Lower Rejang. Originally it was an important pepper-producing area and while this is still the case, it is also an important rubber-growing district and contains valuable forests. It is a natural outlet for the neighbouring Kalaka district in the Second Division, and a road to link Roban and Saratok with Sarikei is being built. The wharf is a small one, consisting of pontoons. The original wharf, built just before the war, subsided gently into the river and now provides an inclined ramp to the Customs godown. Sarikei has a predominantly Chinese population, with a certain number of Dayaks and Malays. The largest sawmill is located at Rejang at the mouth of the river. At Selalang, a former centre of the cutch industry on a left bank tributary, veneer and plywood are now being produced.

It was in Sarikei district that the value of *ramin* forests was first established by the Colonial Timber Company which was formed at the end of the war by a group of enterprising Australians who had served in the military forces in Sarawak. An important deep-water anchorage is located at Tanjong Mani. A little way upstream from Tanjong Mani on the left bank there is a small knoll called Gunong Ayer which rises out of a limited area of dry land stretching through to the site of a sawmill at Bukit Kinyau. This is a possible site for a future deep-water port for Sarawak. It would be possible to link Gunong Ayer to the Sarikei-Jakar-Roban road, although the construction of such a link through the swamp would be very expensive. The road would have to pass a hill with a Dayak longhouse on it called Bukit Sari which is of interest as being one of the first centres of Roman Catholic missionary effort in Sarawak.

Mukah

Mukah district is the main sago producing area of Sarawak, and is inhabited largely by people of Melanau extraction, although there are considerable numbers of Dayaks upriver. The Melanaus cultivate sago and rice. Their roomy fishing boats are called *barongs* and are a most attractive sight under full sail. A Melanau speciality is *Umai*, slices of fish eaten raw after being dipped in a special sauce.

There are three rivers, the Oya, Mukah and Balingian, and there are large areas of cultivated sago palms, particularly in the Oya. There is a channel which has been enlarged to form a proper canal between the Oya and Igan rivers, but the extremely soft nature of the soil makes maintenance and the prevention of bank erosion very expensive. This channel is known as the Kut Canal.

Apart from the administrative headquarters at Mukah, a pleasant little town with a useful feeder airstrip and a resthouse and club, there are bazaars on the Oya river at Dalat just below the start of the Kut Canal and at Oya at the mouth of the river, and also at Balingian. The district has great charm, and it is unfortunate that the low price of sago has made it an economically somewhat depressed area. There is every

reason to suppose that sago is a starch with a very considerable development potential, and it is hoped that the present crude method of manufacture can be replaced by efficient and up-to-date factories which will convert the freshly cut log to starch in one operation, thereby preserving all its qualities intact. There are very extensive *ulu* areas inhabited by Dayaks. The Ulu Oya comes very close to the Rejang in Kanowit district. It is hoped that the construction of the new feeder road from Sibu to the Ulu Oya will be the first step in the more intensive agricultural development of the upriver areas.

Kanowit

This mainly covers the very extensive drainage area of the Kanowit river and has the biggest Dayak population of any district in Sarawak. The district also includes two extensive rivers, the Poi and Ngemah on the left bank of the Rejang and a number of smaller rivers on the right bank. Kanowit, which is situated at the mouth of the Kanowit river, is now a somewhat depressed bazaar. Much of the trade has moved elsewhere. The town site is subject to very extensive and rapid erosion. It was, however, the first centre to be established by the Rajah's government in the Third Division, and existed before Sibu was founded. It was here that in 1859 two of the Rajah's officers were murdered by the Kanowits, a local tribe related to the Kayans, of whom only a small remnant now exists. The murderers were harboured by the Kayans and this was one of the main reasons leading to the great Kayan expedition of 1863 which finally broke the power of that people. In those days there were very few Dayaks in the district which apart from the Kanowits had only a sparse population of people called Bukitans. The Dayaks gradually pushed over from the Second Division in the latter half of the last century, and no Bukitans now remain. Most of the Kanowit Dayaks trace their origin to the Lemanak in the Second Division, except for the people of the upper Julau and the extreme *Ulu* Kanowit who came from Saribas.

There are a number of small bazaars in Kanowit district which trade direct with Sibu, and their activities have consequently reduced the importance of Kanowit bazaar. The largest of these bazaars is Julau, a very thriving centre indeed, and notable for the particularly good relations established by the Chinese community with the Dayaks of the area. The natural outlet for the trade of Julau is really Binatang, and a road to link Julau to the Sarikei/Binatang Road at Kelupu is under construction and will later be built on to Durin on the Rejang. Another feeder road has been built from Pakan in the middle Julau to link with the Sarikei/Binatang Road.

The history of Kanowit has been a somewhat turbulent one, and it was the scene of the last rebellion against the Rajah's authority in the thirties, under the leadership of a disgruntled *ex-penghulu* called Asun. At that time Kanowit was administered from Sibu and the lack of close contact may well have contributed to the state of unrest which developed. The Ngemah, Poi, Julau and Ulu Kanowit were all seriously affected. A line of blockhouses had to be built to deny the rebels access downriver, and many houses had to be moved to the Igan. Asun died recently. He was banished to Lundu for many years but was allowed to return to his own area to spend his last years on the Entabai River where he had grown up.

A minor uprising of a similar nature under the leadership of one Bakir was only narrowly averted after the war. Bakir, however, lacked popular following and was eventually induced to surrender by the

District Officer. He too was sent to live in Lundu and was eventually killed by a fellow Dayak while engaged in trading operations across the Indonesian border.

The site of the engagement between the Rajah's forces and the Kanowits in 1859 which is so graphically described in *Ten Years in Sarawak* is to be found a little way upriver on the Kabah, a right bank tributary of the Rejang. It is now a quiet and forested hillock adjoining the river, but on one occasion it was the scene of a bitter engagement and one where the Kanowits made very effective use of blow-pipes and poison darts.

The old ironwood Roman Catholic Church in Kanowit was built in the eighties. The district is a stronghold of the Roman Catholic Mission. The church is a very fine one though unfortunately suffering from bank erosion. It was machine-gunned by the Royal Australian Air Force during the war, and one of the curiosities of the district is a 50-calibre bullet which, having entered an ironwood pillar has turned round and appears to be doing its best to emerge once more in the direction from whence it came.

There is a fine mountain called Bukit Sepali on the watershed between the Ngemah and the Katibas. It has one very precipitous face and as seen from a distance from Kanowit Fort looks like a miniature edition of Kinabalu, the great mountain in North Borneo.

Kapit

This covers an immense area drained by the Balleh, Upper Rejang, Balui, Belaga and the Katibas. The headquarters at Kapit is situated at the limit of launch navigation. Beyond Kapit the river becomes shallow at Nanga Balleh and the Pelagus rapids. Kapit is a prosperous and progressive little bazaar, with a pretty lake behind the Government office and a circular walk in the hills beyond built by a former District Officer, the one incidentally who ended up by losing his reason in Matu. It is now an important centre for the Methodist Mission which has built an up-to-date hospital and large school. There is a tremendous rise and fall in the level of the river at Kapit, and in really dry weather the river bank appears as a substantial and muddy cliff.

The Balleh and its tributaries contain one of the main concentrations of Dayak population in Sarawak, but in the Rejang proper there is no Dayak settlement beyond Nanga Pila on the other side of the Pelagus rapids. The latter are a major obstacle for transportation and many lives have been lost in passing through them by boat. There is a path along the right bank and passengers walk through while the boats are manhandled through difficult places below. Attempts have been made to remove some of the more dangerous rocks in the rapids by blasting, both in the Pelagus rapids and elsewhere in Sarawak, and some limited success has been achieved. There are further difficult rapids beyond Pelagus.

The upriver end of the rapids, Pasir Nai, was the scene of a dramatic and tragic onslaught on the Japanese in 1945. The Japanese had been instructed to withdraw into the centre of Borneo, and a party was proceeding upriver accompanied by a number of political prisoners. The Dayaks accompanying them had made up their minds to attack the party when a suitable occasion presented itself. This was done at Pasir Nai when the entire Japanese party was wiped out as well as the political prisoners.

Beyond Nanga Pila the country of the Orang Ulu, Kayans, Kenyahs, Penans, Kejamans and Skapans is reached. The countryside is very sparsely populated and the distances between houses are very great. At one time the country supported a much larger population and the Kayan confederation was continually at war with the Dayaks. In 1863 a great expedition was mounted under the leadership of the then Tuan Muda who was later to become the Second Rajah. Some 15,000 Dayaks made their way past the Pelagus rapids which the Kayans had thought impassable and brought war and destruction to the valley as far as beyond Belaga. This checked the power of the Kayans, whose numbers were further reduced by disease and also by sporadic unofficial and unauthorised warfare with the Dayaks.

There is a sub-district headquarters at Belaga where an airfield has now been established and a Borneo Airways feeder service to Bintulu will be operated. A certain number of houses are to be found in the Belaga river which has easy access to the Tinjar, a tributary of the Baram. There are also scattered houses in the Balui by which name the Rejang is known above Belaga. From the head of the Balui there is very easy access over the border to the Indonesian station at Long Nawang. A considerable number of Kenyahs moved over the border into Sarawak territory during the war, but the area as a whole is an empty one and many fertile valleys which one hundred years ago supported a substantial population of large longhouse communities has now reverted to jungle.

The Dayaks of the Balleh are well known through the writing of Mr. Malcolm MacDonald who became the adopted son of the famous chief, the late Temenggong Koh. They have maintained to a remarkable extent Dayak traditions of hospitality and good living based on ample land resources in relation to the population. The present Temenggong, Jugah, a very vital and dynamic personality, lives on a tributary called the Merirai. Although the Roman Catholic church was first in the field in Kapit a considerable number of Dayaks have now become Methodists.

Another sub-district of Kapit embraces the Song area where the Katibas river joins the Rejang. This river too, is inhabited by Dayaks and was one of the first areas in the Third Division to be settled by them. It is only a small station with schools and a Roman Catholic Mission. There is a range of mountains, the Hose Mountains, running between the Balui and Balleh rivers and an interesting volcanic plateau has been discovered between the Linau and the Balui.

A feature of some interest in Kapit is that elephants have been introduced to work timber in the Ba valley. Although the original importers, the Borneo Company, no longer operate there some of the elephants are still being used by Chinese timber companies.

FOURTH DIVISION

This Division covers the area from beyond Balingian to the Brunei border.

Bintulu

Bintulu district comprises the valleys of the Kemena and Anap rivers. Bintulu is the capital of the district. A very attractive little town at the mouth of the Kemena, it possesses a good airfield, a hotel and a club and is readily accessible by air. It is an important centre for the collection of *jelutong*, a jungle rubber used in making chewing gum.

There is a mixed Malay/Melanau population on the coast, with Dayaks in the lower reaches of the Kemena and small numbers of Kayans in the *ulu*. There are also a few communities of settled Penans.

Formerly Bintulu was very isolated. At one time it was part of a Coastal Division which also covered Mukah and Bintulu districts. The capital was Mukah and the Division must have been an exceptionally attractive one from the point of view of officers fortunate enough to serve there.

There is a sub-district of Bintulu called Tatau, on the Anap River. A good many Dayaks have settled on the tributaries of the Anap, and Penans and Bukitans are to be found in the Kakus. There are volcanic mountains in the Tau range, the highest point of which is Bukit Mersing (3,344 feet) and it is believed that the upper reaches of the valleys draining from this massif may have a useful agricultural potential. It is possible that the Upper Anap and the forests which cover it could be exploited by a road running in from opposite Kapit on the Rejang and investigations are being undertaken.

Miri

This covers a long coastal strip between Bintulu and the Brunei border, and includes the Niah and Sibuti valleys. Miri town, the capital, is the third most important town in Sarawak. Its importance principally derives from the Miri oilfield which was discovered in 1909. It was the first oilfield to be worked in British Borneo and the original well is still working. The field is now virtually exhausted but a refinery at Lutong is still in operation and processes much of the oil produced from the Seria field in the neighbouring State of Brunei. This oil is also exported from Lutong.

The population of Miri is mainly Chinese, with a fairly substantial population of Malays, Dayaks and Kedayans, particularly in Sibuti, Niah and Suai. The Kedayans are an interesting people who are said to be descended from the followers of a Javanese princess called Chanai Lela who married a Sultan of Brunei. In the Niah, Sibuti and Suai areas the Kedayans outnumber the Malays. Sibuti is a particularly fertile *padi* growing area. The main centre is called Bekenu. There is a Government station here and it is being linked to Miri by road.

Limestone hills at Niah contain very fine caves which have for years been the centre of an important birds' nest industry, the removal of the edible nests of the swifts which breed in the caves and the extraction of guano produced by the millions of bats which also live in them. Recently very interesting human remains have been discovered in the caves as a result of investigations by the Sarawak Museum which have established that the caves have been occupied by human beings on and off since 40,000 B.C. Quite apart from their archaeological wealth, the caves are in themselves very impressive and spectacular. The removal of the birds' nests is a particularly interesting and hazardous operation. The nest collectors climb up perpendicular poles in order to scrape the nests off the roof of the caves, and throw them down to assistants below.

Baram

This district covers the whole of the Baram valley and at one time included Miri district as well. The district headquarters at Marudi were established in 1883 long before there was any Government station at Miri. The Baram river is not as large as the Rejang, but it is nevertheless an extremely impressive stream and has a number of fine

tributaries of which the Bakong, Tutoh, Akah and Tinjar are the most important.

Marudi is an attractive small centre on the first elevation to be found along the banks of the river. Downstream there is very little settlement except in the Bakong where a considerable number of Dayaks live as well as Malays. The latter are by origin converted Penans, as are many of the Malays in the immediate vicinity of Marudi. There is an interesting pagan burial cave in the vicinity of the sub-district headquarters at Beluru. Dayaks have also settled in the lower reaches of the Baram and in the lower Tinjar valley. The rest of the district is inhabited by *Orang Ulu*, i.e., by Kayans, Kenyahs and related peoples.

The Lower Baram, downstream from Kuala Bakong, lies very close to the Belait river, and a canal could be very easily constructed to join the two rivers at a place called Pagalayan if the need ever arose.

At the limit of launch navigation there is a fair-sized bazaar at Long Lama. The wealth of this bazaar has been derived very largely from the birds' nests which are found in a number of limestone caves in the district. These nests are of the very highest quality. Rights to the caves belong mainly to the people of Long Laput, a very large Kayan longhouse a little way upstream from Long Lama. Over the years a very large proportion of the profits from the birds' nests has been converted into *arrack* to the great benefit of the Chinese traders in Long Lama.

The Baram beyond Long Lama is a very beautiful river, but very empty. The distances between houses are very considerable. There are a number of dangerous rapids which have to be surmounted. Important tributaries are the Patah and the Akah. The latter is probably the most dangerous river in Sarawak. The Kayans and Kenyahs of the Baram are unquestionably the finest boatmen of the country. There is a small bazaar at Long Akah. The house of Temenggong Oyong Lawai Jau, paramount chief of the *Orang Ulu*, is at Long San just beyond Long Akah. This well-known chief had the misfortune to have his magnificent longhouse burnt down a few years ago. This involved the tragic loss of most of his family heirlooms handed down from a long line of great Kenyah chiefs.

The argument as to whether Borneo people should go on living in longhouses is one which has not yet been settled. Chiefs and headmen are usually in favour of the longhouse system as it simplifies traditional Native administration. Continuation of the system is, however, a brake on progress since development of the community tends to be geared to its slowest moving member, and losses through fire which occur with depressing regularity are a serious source of impoverishment of the Native peoples.

The Baram has been the centre of a certain amount of mission rivalry. Until the war the river was predominantly pagan but since the Temenggong decided to accept Christianity immediately after the war conversion has been rapid. As a result the Roman Catholic Mission has worked upriver from its old base in Marudi while the Evangelical Mission has come downriver from the Kelabit country and there has been head-on collision in the middle reaches. This has caused a certain amount of difficulty and the position is further complicated by the existence of an indigenous faith, that of the Bungans.

There is an uninhabited plateau called the Usun Apau area some 3,000 feet in altitude between the Tinjar and the Baram where a magni-

ficent waterfall 800 feet in height occurs not far above a place called Long Julian. It was only discovered a few years ago although dozens of Government officers have passed within two days' journey of the fall over the years.

The high land at the head of the Baram is inhabited by the Kelabits, a very interesting and dynamic people. This was the centre from where S.R.D. operations commenced during the war. There are several tracks into the Kelabit country. The ones most generally used are by the Akah or from Lio Matu. Access from the Trusan side involves crossing Indonesian territory although there is a very steep and difficult path through Sarawak territory over Murud which is occasionally used.

The Tinjar is a beautiful river, very under-populated. Here and elsewhere in the Baram there is a good deal of pressure from the Dayaks who wish to encroach on what has always been *Orang Ulu* land. The objections of the *Orang Ulu* can be readily appreciated but there can be no doubt that much of the land is under-populated. The Tutoh is perhaps the most beautiful river, particularly where its tributaries flow below the great limestone mass of Mulu. The upper Tutoh is a very difficult and rarely used route to the Kelabit country.

As in a number of other places in Sarawak some of the watersheds between rivers are very low, this particularly applies between the Upper Kemena in Bintulu district and the Tinjar, and between the Melinau tributary of the Tutoh and the upper Madalam in Limbang district. The latter watershed is so low that Kayan war parties used to drag their canoes over when attacking the Limbang.

Perhaps the most noticeable feature of the Baram is the under-population. In historical times and even quite recently the valley supported a large number of Native communities, but it is only since the war, with the provision of more effective medical facilities and the elimination of malaria, that the peoples have started to increase in numbers once more.

The valley is also one of the main centres of Penan population, a curious tribe who wander through the jungle living on wild sago and the animals they shoot. They obtain external necessities such as cloth and salt at special Government-supervised trading meetings at which they exchange various kinds of jungle rubber, monkeys' gallstones and the gall bladders of honey bears (both items valued in Chinese medicine) with the Kenyah traders who have a traditional right to trade with specific groups of Penans.

FIFTH DIVISION

This is a very small Division on the other side of Brunei which has become Sarawak territory in bits and pieces. The Trusan valley was ceded to Sarawak in 1884, the Limbang in 1890 and Lawas district in 1905. Temburong district between the Trusan and Limbang, however, has remained part of Brunei. There are no land communications between the two districts of the Division, and between the Division and the remainder of Sarawak except by means of long and difficult journeys through the hinterland.

Limbang

Limbang district consists of the valley of the same name. The Divisional Headquarters at Limbang is a prosperous centre and there are smaller bazaars upriver at Danau and Ukong. The valley is one of

the finest in Sarawak and its agricultural potential is very considerable. The inhabitants downriver are mostly Malays, Kedayans and Bisayas, with a fairly large group of Dayaks in the middle reaches and a very small number of Kelabits in the Medihit. The valley suffered in the middle of the last century from a combination of Brunei mis-rule and onslaughts by the Kayans. At one time it undoubtedly supported a large population. There are reports that in the eighteenth century Chinese pepper gardeners were at work as far as the Medihit, and the extreme *ulu* valleys, in particular the Adang, once supported large communities of Muruts. Interesting Hindu relics were found on the site of the old Residency in Limbang. Limbang is easily accessible from Brunei. There is a sheltered channel joining the Brunei river to the Limbang, and the journey by fast outboard takes about forty-five minutes. It is thought that the Limbang offers the best prospects for the cultivation of oil palms in Sarawak, and a pilot plantation is planned. The upper reaches of the valley are extremely mountainous and contain the curious and very striking double-peaks of Batu Lawi which early travellers were led to believe was almost the height of Kinabalu in North Borneo. An extremely interesting early account of a journey up the Limbang to the Adang is to be found in St. John's *Life in the Forests of the Far East*.

Lawas

This consists of the Trusan and Lawas valleys, the latter purchased from the British North Borneo Company in 1905. The Trusan is a very extensive river, but is not navigable by even the smallest canoe beyond a place called Long Tengoa. The entrance to the Trusan is also very shallow. The Lawas river next-door is smaller but much more readily accessible to medium-sized coasters. A road now links Lawas and Trusan. Trusan is the limit of launch navigation in that river and formerly contained an interesting old ironwood fort.

The original inhabitants of the district were Muruts and possibly some Bisayas downriver. Muruts are now largely confined to the upper reaches. There are, however, communities of these dour and rather reserved hill people across the border in the neighbouring areas of Indonesia. The downriver people are mostly Malays and Kedayans with a few Tagals in the Merapok valley. Tagals are a distinctive North Borneo people, though known there as Muruts, who build longhouses with a sprung dancing-floor. The Merapok is extremely close to the Mengalum in North Borneo and in times of flood the Mengalum overflows across the border into the Merapok. Lawas has the distinction of having two airfields, one built by the Government and one by the Borneo Evangelical Mission, on opposite sides of the river.

All travelling beyond Lawas and Long Tengoa is by foot, which is unusual in Sarawak. It takes seven to ten days to reach the Indonesian border. There are a number of settled valleys formed by right hand tributaries of the Trusan. The head of the valley is at Ba Kelalan where the Muruts cultivate irrigated rice on an intensive basis, and there is a low watershed leading over from here to still larger valleys on the Indonesian side. It is a curious fact that the people across the border at one time made their submission to the Rajah's government but the watershed was against them. Access to Lawas is very much easier than in the other direction to the Indonesian administrative capital of Tanjong Selor near Tarakan.

The Muruts were formerly a very turbulent and independent people and much given to quarrelling amongst themselves. The Rajah's government mounted an expedition against two chiefs called Okong and Dayong in 1900 which finally subdued the area. The Muruts suffered greatly from

the inroads of smallpox and cholera and the effects of malaria and a very high incidence of alcoholism. They were in fact the heaviest drinkers in Sarawak and were steadily drinking themselves into a state of extinction when they became converted to Christianity in the thirties. Since then drinking has been almost completely abandoned, and the Trusan is now the driest area in Sarawak. The Muruts will not even plant tobacco, which is probably the most valuable crop for the valley, because they have been taught it is sinful to do so. The Muruts did well in the war and the Europeans who took refuge among them were well looked after and, although they had eventually to surrender, there were no casualties. The Muruts also distinguished themselves in the S.R.D. operations described in Tom Harrisson's book *World Within*.

APPENDIX H

MAINLY FOR VISITORS*

Tourism

Sarawak is not an ideal country for tourism because it is generally lacking in easily accessible architectural or scenic attractions. Its main interest for the overseas visitor lies in the home life of longhouse dwellers. Unfortunately the home life of human beings does not provide a suitable basis for a tourist industry.

For this reason the Sarawak Government is unable actively to promote or encourage tourism, though at the same time it is not considered that there is any need to insulate Dayak and other longhouse communities from all contact with the outside world. Visitors and tourists are free to come to Sarawak and travel where they like within certain limits but they must travel at their own expense and make their own arrangements. Government officers will give help and advice short of undertaking responsibility for travel or accommodation arrangements. The only areas and places which are restricted for visitors at present are the Turtle Islands, the Rejang River system above Nanga Balleh and the Kanowit River and its tributaries above Julau. Restrictions on the Turtle Islands are designed to protect the turtle egg industry and on the Upper Rejang and Balleh to ensure that visitors do not make excessive demands for assistance towards their transportation in sparsely populated *ulu* areas and do not get into difficulties in remote areas which will involve Government in the trouble and expense of extricating them. Applications for permission to visit the Turtle Islands should be addressed to the Curator, Sarawak Museum. In the case of other restricted areas application should be made to the District Office of the area in question.

Visitors should note that the number of hotels and resthouses in Sarawak is very limited though simple Chinese meals are obtainable in all bazaars.

Outboards for river travel can be hired in most Divisional and District Headquarters. It should be noted that a knowledge of Malay or Chinese is almost indispensable for independent travel in Sarawak outside the main centres of population.

Food and Drink

It cannot be said that Sarawak has developed any very special forms of cooking and all Native cooking suffers from an excess of salt fish and a deficiency in vegetables. Dayaks and other non-Malay Natives subsist largely on rice with any meat or fish available very roughly and crudely chopped up and boiled or roasted. The Dayaks eat their rice in the conventional way with the grains soft but separate, but Kayans, Kenyahs and Muruts cook it until soft and wrap great glutinous lumps in leaves.

The Malays specialise in very excellent curries which again are deficient in vegetables although curried pineapple is a frequent and altogether admirable ingredient. The curries are mild, containing much coconut, and are served with a variety of *sambal*, little plates of such items as peanuts, salt fish, pickles and banana slices.

* Reproduced from the booklet entitled *Information on Sarawak* which is now out of print.

A particularly excellent form of Malay food is *satay*, little pieces of meat grilled on a skewer over charcoal and then dipped in a hot and savoury sauce of ground peanuts and chillies. For those who like it *satay* sauce also makes an interesting addition to salads.

In the Melanau country where cooking otherwise resembles that of the Malays, sago was formerly the staple article of diet and a variety of little cakes made of sago are still prepared there. The Melanaus also eat slices of raw fish dipped in a special sauce, which taste much better than one might expect.

There are a number of South Indian Muslim restaurants, particularly in Kuching, which serve excellent curries. Fair to poor European food is obtainable in several hotels and Government resthouses.

The main type of cooking in Sarawak is Chinese. There are Chinese restaurants in most towns and there are coffee shops in almost every bazaar. Most coffee shops can provide some form of cooked food.

Every variety of liquor is available. Non-Muslim Natives make their own drinks, mostly from rice. The two most important kinds are the Iban *tuak* and the *borak* brewed by Kayans, Kenyahs and related peoples. *Borak* is bitter, *tuak* smoother and slightly sweet. Good brews of both are quite drinkable and really good ones first class.

There are high import and excise duties on liquor sold in the shops (in Sarawak the man who drinks and smokes is the main prop of Government finance) but prices though high are not prohibitive.

Social and Sartorial

The main rules are to bathe regularly and to dress simply. Sarawak has a hot climate and consequently its inhabitants make a practice of bathing twice a day. Visitors should do likewise, even if they have been brought up in a cold northern climate to believe that one bath a week is more than ample. Similarly clothes need changing twice a day.

People in Sarawak dress sensibly and informally. Jackets are seldom worn by men except on formal occasions.

Some more detailed sartorial notes taken from the Government publication supplied to Government officers on first appointment are at Appendix I.

Photography

The difficulties of photography in the tropics are greatly exaggerated. The main problem is not heat but humidity. It is essential that optical equipment and negatives should be kept dry when not in use. This can easily be achieved by storing in reasonably airtight boxes with a frequently baked out supply of the invaluable dessicant. Silica-gel.

It is also important that once film has been opened for use it should be used and developed as quickly as possible. While awaiting development it should be kept with Silica-gel.

Air-conditioning is useful in storing unexposed photographic material at an even temperature and in keeping the photographer cool when working in the darkroom. It is also essential in developing colour film. But for normal work it is in fact far from essential and its importance has been grossly exaggerated. In particular optical equipment should be taken in and out of air-conditioning as little as possible as the change from the artificial temperature to the normal one causes condensation and promotes the growth of mildew on the lenses.

Printing and developing can be undertaken in Sarawak or alternatively exposed films can be sent by air to Singapore. It should be borne in mind that second class air mail is far cheaper than first class and just as quick. The only difference is that the packages must not be sealed.

Sarawak people are helpful about letting themselves be photographed and it is not customary for them to request payment. But they do like receiving photographs of themselves and any promises to send prints should be fulfilled. There have, in the past, been far too many broken promises and they cause bad feeling.

Miscellaneous Points for Visitors

Sarawak men and women in every walk of life are courteous, helpful and considerate. They will automatically do everything possible to make the visitor's stay a pleasant one. They expect from visitors the same good manners which they themselves display.

It must be realised that Sarawak is not yet highly-developed and sometimes things move a little slowly. But there are never any difficulties which patience and good manners cannot solve.

This little homily may strike readers as being tedious, trite and uncalled for and so of course it is in the case of the majority of visitors. But there is always the impatient or bad tempered exception who can cause a disproportionate amount of ill-feeling. Sarawak is jealous to preserve the excellent relations with visitors from the outside world which have been built up over the past 120 years.

It may be pointed out here that the word Native is a respectable one in Sarawak. It means a non-Chinese indigenous inhabitant. It is used with pride and spelt with a capital N.

The visitor should have a valid vaccination certificate though it is not insisted on unless the visitor is coming from or has passed through an infected area. Similarly a cholera certificate is only necessary if the visitor is coming from an area where cholera has broken out. Typhoid inoculations are not required but their possession is a sensible precaution anywhere in Asia.

A large variety of goods is dutiable but a temporary visitor need not anticipate any difficulties. Used portable goods are allowed in duty-free although there is some control on cameras, photographic accessories, musical instruments and bicycles. The Customs will ask the visitor for a reasonable assurance that such articles will be exported again when he leaves Sarawak.

In addition the visitor can bring in cosmetics in use, up to half a pound of tobacco or two hundred cigarettes, a quart of wine, a quart of spirit and a quart of beer. The visitor need not, therefore, anticipate suffering from thirst on first arrival in Sarawak. Motor cars, aircraft and pleasure craft can be brought in on a temporary basis.

The Commissioner of Customs can require security on dutiable goods if he is not fully satisfied that the goods will be re-exported. He is always glad to provide visitors with any information which they may require.

If for any reason a visitor wishes to bring in with him supplies of dutiable goods other than personal effects and which will not be re-exported much time will be saved if detailed lists are available for Customs use. It is pointed out that a very wide range of most consumer goods is available at reasonable prices inside Sarawak.

Hotels exist in Kuching, Sibü and Miri but it is advisable to book accommodation well in advance. There are plenty of taxis available in these places and if there is not one at the airfield the airline office will help you call one. The airlines do not provide transport of their own. Taxis are not metered. The usual charge for a taxi in town is \$1.

The question of tourism is discussed in a separate section and brief notes on the districts of Sarawak are given in the *Gazetteer*. If you visit Native villages and *kampongs* you should have your own bedding and food supplies. You may be offered food but you should not take it for granted. If offered rice you should eat some of it whether you like it or not. Many Native communities (though not all) would regard themselves as very stingy if they did not offer the visitor at least some rice and they would think the visitor very ill-mannered if he did not accept it.

Try and talk to the people and do not be standoffish. They like to hear news from the outside world. Treat them with the same consideration you expect visitors to show to you in your own home. It is customary to call on the visitor to dance at any longhouse party and if you can do something special to entertain the house, perform conjuring tricks or play the bagpipes, your social success will be assured.

Sarawak people do not expect to be paid for hospitality but it is customary to make presents in return. You cannot go far wrong with drinks, cigarettes and sweets and perhaps *sarongs* for the headman and his wife.

Labour should normally be paid for. District Officers and Sarawak Administrative Officers will advise you. But even if you are invited to a village and you do not pay for any labour involved in transporting you, be sure and refund the cost of any petrol used.

Do not expect to travel on the cheap. Sarawak is an exceptionally expensive country and the dollar does NOT go a long way.

Official calls are kept to a minimum. Divisional Residents have visiting books in their houses. Visiting books are also maintained in Kuching by the Chief Justice (at his residence in Rock Road) and by the Chief Secretary and Governor. The two latter books are to be found in the Pangkalan Batu Police Station by the riverside in front of the Judiciary.

APPENDIX I

WARDROBE REQUIREMENTS FOR VISITORS—MEN*

The main thing to bear in mind is that Sarawak has a warm climate and the general practice is to change your clothes twice a day. You put on fresh clothes in the morning and change in the evening before dinner and so on. You therefore need plenty of shorts, underclothing and drill shorts or slacks. The following list gives an outline of a desirable wardrobe but it is, of course, perfectly possible to manage with less.

Suits. You should have at least one good tropical suit. The best materials are either Dacron or Orlon or a good quality lightweight woollen material. It is a good idea to buy a second pair of trousers as they are often worn without a jacket.

Evening clothes. Rarely used but still necessary. Most people wear white dinner jackets and soft shirts with collars attached. But a lightweight black dinner jacket has the advantage that you can use it more readily in a temperate climate.

Worsted or grey flannel slacks. They can conveniently be worn in the evening and being suitable for temperate countries as well they are always useful. Two pairs.

Khaki or white cotton slacks. If you like to wear slacks during the day you will need about four to six pairs. If on the other hand you prefer shorts (which are certainly cooler) you will still find one or two pairs of slacks very useful.

Cotton Drill Shorts. Even if not worn in the office you will need them for recreational purposes and travelling. So bring at least two pairs, and six pairs if you will be wearing them daily. Colour is optional, white, navy blue, khaki, green or grey. The latter look neat. Don't bring worsted or other woollen shorts as you will only wear them for a day at a time and the woollen materials will not stand up to the washing. Drill shorts can readily be made up locally.

Shirts. Six cotton shirts with short sleeves for everyday use. Most officers use shirts which tuck into their shorts but if you like to wear the beltless, bush shirt type which hangs outside the trousers, you will find them particularly cool and comfortable.

Two quick drying Orlon or Dacron shirts for travelling.

Two best quality white cotton shirts with long sleeves.

Two short-sleeved sports shirts. You can either have the conventional tuck-in shirts or the Hawaiian type of shirt which is cheerful and comfortable and can be worn on informal evening occasions too.

Underwear. Cotton sleeveless singlets and pants. Bring a good supply, say not less than eight of each.

Socks and stockings. Best stick to cotton or terylene: The half length socks with expanding elastic tops are the best. The ones made of heavy ribbed cotton are particularly useful. Bring a dozen pairs plus one pair of black socks for evening wear. Stockings are not much worn with shorts as socks are cooler but if you like them bring four pairs.

* From the booklet issued to Government officers on first appointment entitled *Conditions of Living in Sarawak*.

Handkerchiefs. At least a dozen.

Pyjamas. On the whole pyjamas are not very suitable for tropical use. Most people in Sarawak wear locally bought *sarongs* with or without locally made short cotton jackets. Best bring two pairs of lightweight cotton pyjamas and try out a *sarong* after your arrival.

Dressing gown. Only needed when travelling. The most useful type is made of towelling.

Ties. You will not need very many but if you do want to wear one daily bring washable ones.

Shoes. Bring a couple of pairs of good general purpose brown shoes, or sandals which are cooler, for everyday use plus a good pair of black shoes for use with a lounge suit, and a pair of pumps. The normal wear for travelling is a pair of rubber-soled canvas shoes. They are obtainable locally and quite cheaply and the best thing is to buy several pairs at a time. Walking in Borneo nearly always involves getting your feet wet and leather is only suitable for town wear.

Hats. About the only time you need a hat in Sarawak is when you review a guard of honour and since you are not likely to be doing this, at any rate to begin with, you might just as well not bring one. If, however, you are bald or cannot take hot sun on your head you will find one a convenience for travelling and outdoor activities. People don't get sunstroke in Borneo and there is no need for a solar topee. The essential thing is to have a good pair of dark glasses, preferably smoke grey. If you wear glasses it is well worthwhile to have a pair made up to your own prescription in dark glass.

Raincoats. A light plastic raincoat is useful for weathering heavy showers. The burberry type of raincoat is of little use. Don't bring an umbrella. The general practice is to use Chinese oiled paper umbrellas which cost 1/6, last for a long time and are cheaply replaced when your friends borrow them and forget to give them back.

Bathing trunks. Facilities are rather limited except on the coast, which is not accessible by road from Kuching, but you should have a pair of trunks. Public swimming pools are being built in Kuching and Sibü. There is a newly-opened public pool in Simanggang.

In Kuching there is a swimming pool in the Sarawak Club and there are other swimming pools in Miri.

Temperate clothes. In addition to the above you need enough warm clothes to see you out of England and back again without catching pneumonia. If you are travelling by air one suit and hat and raincoat is all you need but if you are travelling by sea you can please yourself. Bear in mind, however, that wool tends to get mildewed and attacked by insect pests in the tropics. You either have to keep your woollens in an air-tight box or see that they are aired carefully and regularly. The best thing is to bring the minimum.

Suitcases and trunks. The main thing is to avoid leather which is likely to mildew in Sarawak when put away in the storeroom. Suitcases should be lightweight since you are always liable to travel by air. Aluminium suitcases are particularly useful. You would be well advised to have at least one good quality steel trunk or Marshall chest for keeping woollen and other things in. They are expensive but well worthwhile. It is worth the trouble to have them shipped in stout crates with screw on tops which can be used again if you are transferred.

WARDROBE REQUIREMENTS FOR WOMEN

The same general remarks apply to women as to men, only clothing for them and for children is even simpler.

Dresses for the day. The simplest cotton ones are the best, they wear out quickly because of the constant washing, therefore at least six to start with.

Linen and silk are both too hot for most women. Nylon is not at all good being very clammy. There are numerous shops selling all kinds of cotton materials and it is possible to get them made up, especially in Kuching where there are several good dressmakers. New pattern books are very welcome. Good seersucker and the non-iron materials are especially good.

Dresses for the evening. Two or three cotton cocktail dresses. Some people like a silk or nylon skirt with a change of blouses; lace is good for these. Taffeta and other fancy silks (except for one special dress) are not good because of washing. It is advisable to bring a couple of evening dresses for the special occasion when the men wear dinner jackets, one long and one short.

Holiday, home and sports. The usual white shorts, etc., for tennis and badminton. Many women like slacks for wearing at home, but they are never worn in the streets. The atmosphere, though casual, is not of a holiday resort, even in the outstations. One or two sun-top holiday dresses for home or seaside wear.

Cold weather or wet. It is never cold, unless one is travelling by water in the early morning, so one cardigan is enough, and perhaps an evening wrap or stole. It is wet, and one or two light plastic capes or loose coats are very useful. So too are several plastic bags for storing clothes, especially those not in use.

Shoes and stockings. Good quality shoes are not easily obtainable in Sarawak although a number of shops in Kuching and the other towns sell inexpensive Chinese-made ones in the smaller sizes. Bring several pairs of sandals for dry wear and light court shoes or sandals for evening and other occasions. Stockings are rarely worn and can be bought in the larger towns.

Underwear. As with dresses bring just what you need to use, nylon or cotton pants, say six pairs, and half slips. These should be cotton, nylon is much too hot, and transparent too. Four to six nightdresses or pyjamas also of cotton. Several cotton house coats are very useful as they can be worn in the evenings at home (say two or three).

Hats and gloves. These are only worn on rare occasions, therefore one hat and one pair of gloves, but it is an "occasion" therefore something rather smart and special; small hats are best because of storing. Many of the remarks about temperate clothes, suitcases, etc., of course apply to both sexes.

Cosmetics, sun tan lotion, insect repellent, etc. Nearly all the well-known varieties can be obtained in Kuching or ordered from Singapore, including French perfumes.

Hair. There are several fairly good hairdresses in Kuching—but not in outstations—bring good cutting scissors.

110°

111°

112°

113°

114°

115°

LAND USE IN SARAWAK.

The data summarised on this map has been taken from the Land Use Map of Sarawak and Brunei which is published in seven 1/250,000 sheets. The maps are intended to show as far as possible the present use of the land and to classify the principal vegetation types as indicators of soil conditions and the potential use of the land. The maps and the vegetation classification have been compiled mainly from air photography.

Settled Cultivation
2,700 sq. miles.

Principal crops included under this classification are rubber, pepper, sago, wet rice, coconut and fruit trees and includes fallow land.

Shifting Cultivation
8,725 sq. miles.

Hill-rice land managed by long-term bush fallow; may include secondary forest up to 20 years old.

Mangrove and Nipah
620 sq. miles.

Forest growing on fairly soft mud in tidal swamps. Rather fertile soil, but cultivation usually impracticable because of periodic flooding by salt water.

Mixed Swamp Forest
4,445 sq. miles.

On loose peat where the peat is not more than about 5 feet deep, the land may be suitable for rice land and other crop.

Kerangas Forest
1,691 sq. miles.

Also known as Heath Forest, occurs on podsolc soils unsuitable for agriculture.

Alan Forest
442 sq. miles.

Dominated by *Shorea albida*; occurs on very deep peat unsuitable for agriculture.

Padang Paya Forest
773 sq. miles.

Dense forest of rather small trees usually with one species predominating, occurring on very deep badly drained peat unsuitable for agriculture.

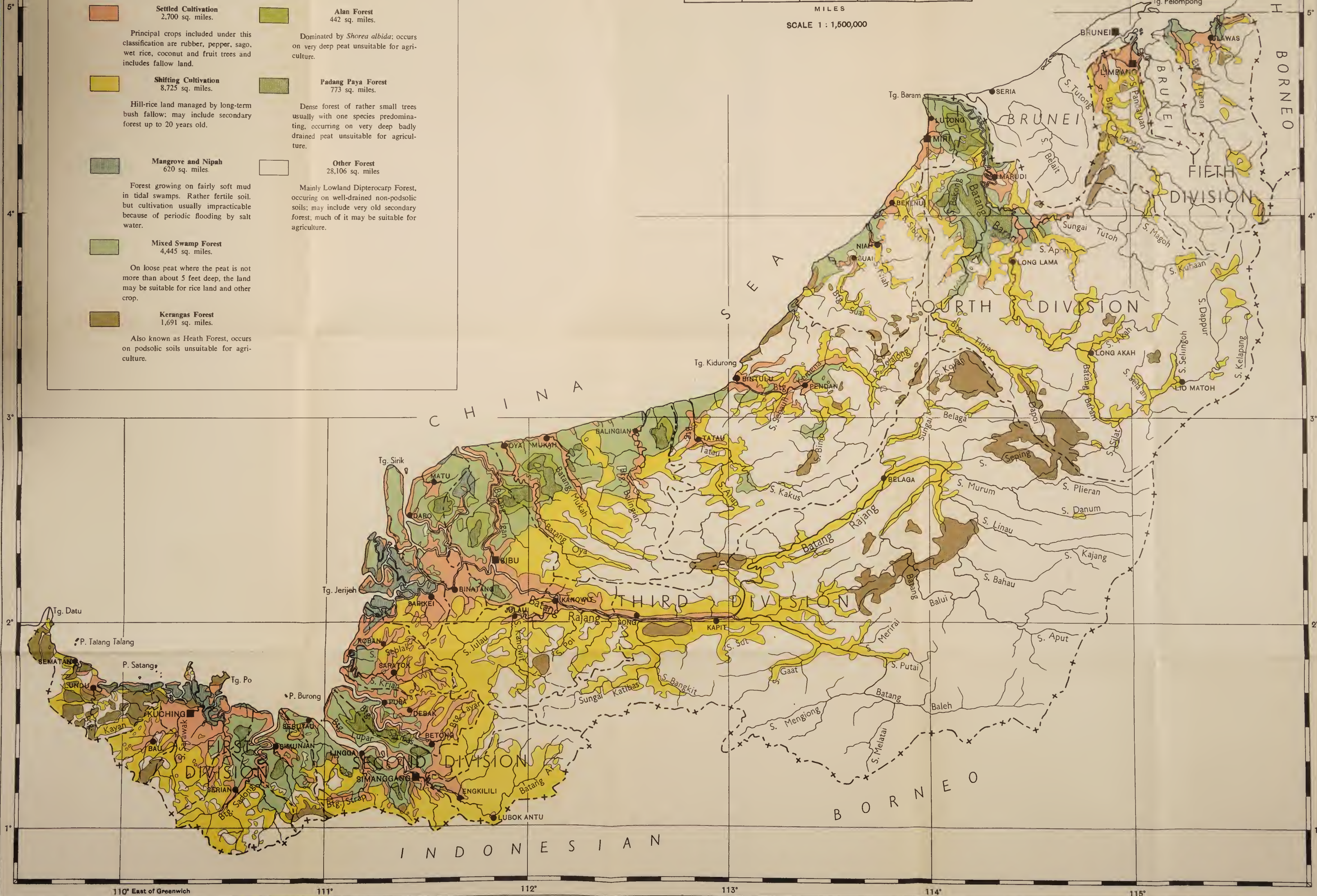
Other Forest
28,106 sq. miles.

Mainly Lowland Dipterocarp Forest, occurring on well-drained non-podsolic soils; may include very old secondary forest, much of it may be suitable for agriculture.

OUTLINE MAP OF SARAWAK

0 20 40 60 80 100
MILES

SCALE 1 : 1,500,000



110° East of Greenwich

111°

112°

113°

114°

115°



LEGEND

- Road: Main
- Road: Other
- Road under construction
- Boundary: International
- Boundary: Division
- Headquarters: Division
- Headquarters: District
- Headquarters: Sub-District
- Small Bazaar and/or Village
- W.T. Station
- V.H.F. Station
- Lighthouse
- Airport, Airfield

